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MANUFACTURERS RECORD

A Weekly Newspaper Devoted to the Industrial, Financial, Railroad,
Mining, Contracting, Engineering, Building, and General
Business Interests of the South and Southwest

Vol. 60
No. 18

ESTABLISHED 1882

\$4.00 Per Year
Single Copy 15 Cents

In This Issue:

Governor Mann of Virginia, on the Sherman Law
as Bearing Upon Agriculture.

How Southern Insurance Interests May be
Developed.

What the South Can Show the International
Congress of Applied Chemistry.

Big Deals in Southern Iron, Coal and Timber
Properties.

How Southern Land Reclamation Has Built Up a
Manufacturing Industry.

Alphabetical Index, Page 126.

Classified Index, Pages 120 to 125.

Classified Opportunities, Pages 84, 85 and 86.

BALTIMORE, NOVEMBER 9, 1911

B. t. u. THE MEASURE OF HEAT

The term British thermal unit (abbreviated B. t. u.), often confronts the user of coal. As a yard stick is a measure of length, a B. t. u. is a measure of heat. The total amount of heat contained in a pound of fuel, all of which is liberated by complete combustion, is expressed in B. t. u's. A single heat unit is the amount of heat required to raise the temperature of one pound of water one degree Fahrenheit at atmospheric temperature. Heat units make steam and steam makes power.

Below are tabulated, from some of the highest scientific authorities, the heat values of the commoner combustibles contained in coal:

SUBSTANCE	B. t. u. Per Lb.	
Acetylene Gas	21,465	Included in the "Volatile Matter" of proximate analysis.
Marsh Gas	23,515	
Olefiant Gas	21,345	
Hydrogen Gas	62,035	
Carbon	14,450	"Fixed Carbon" of proximate analysis.

CLINCHFIELD COAL IS HIGH IN HEAT VALUE

Clinchfield coal is rich in Hydrogen and the Hydro-Carbon gases shown above. These "VOLATILE" gases burn above the fuel bed with rapidity and great intensity in close proximity to the boiler surfaces. Quick liberation of heat units means quick generation of steam; hence the economy in using Clinchfield coal which maintains boilers at high capacity easily and continuously, thus delivering more than the rated horsepower. Clinchfield coal ranges from 14,000 to 14,700 heat units per pound, because it contains small percentages of oxygen, moisture and ash, which are valueless, and large percentages of the combustibles highest in heat value.

OUTPUT OF MINES OF

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2,000,000 Tons Per Annum, and Growing

CLINCHFIELD FUEL COMPANY

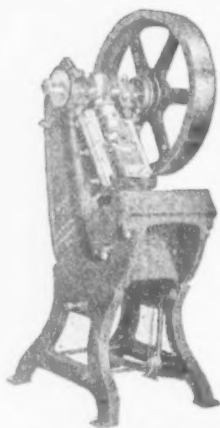
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They are built in eighteen (18) sizes, all in stock, and adapted for nearly all the operations required in the manufacture of tin cans, pieced tinware, metal packages, electrical goods, brass goods, trimmings, etc. Catalogue No. 1-F describes these presses. Send for it.

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An ornamental, efficient open fire, either wood or coal.

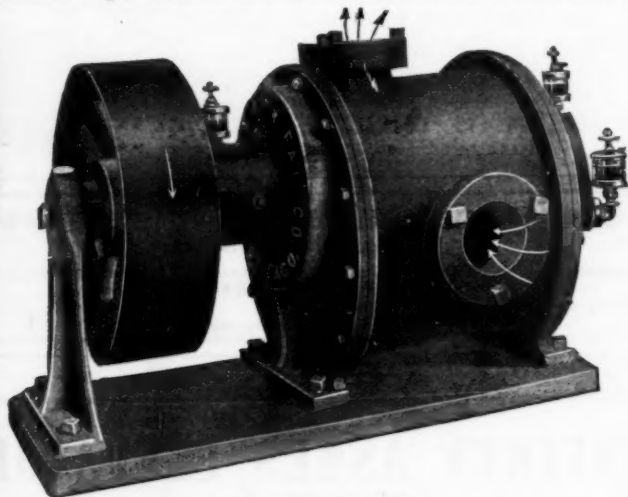
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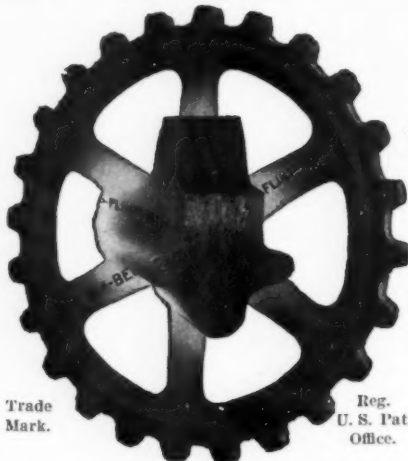
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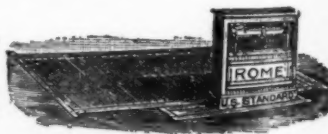
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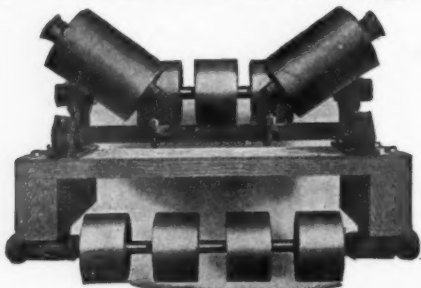
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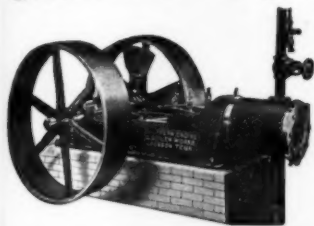
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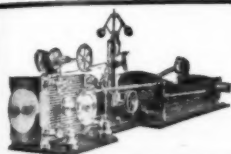
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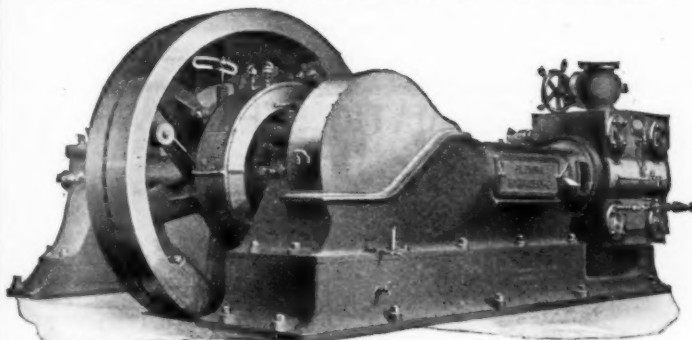


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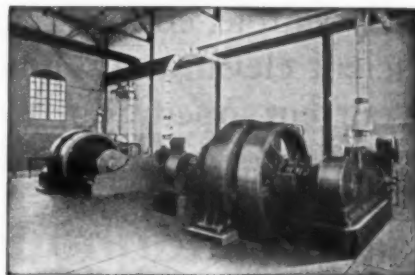
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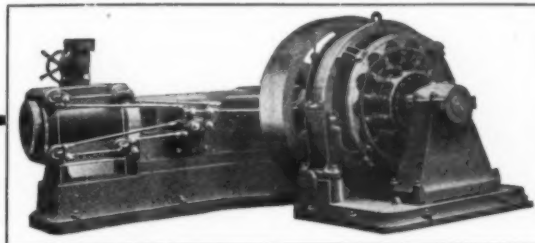
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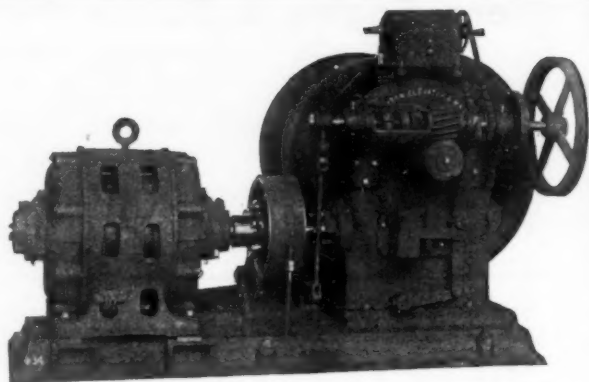
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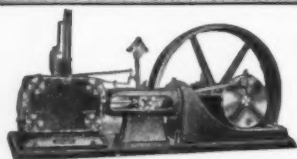
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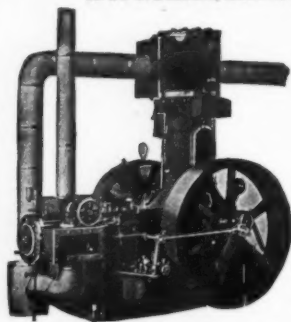


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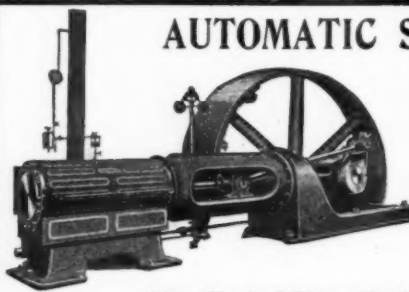
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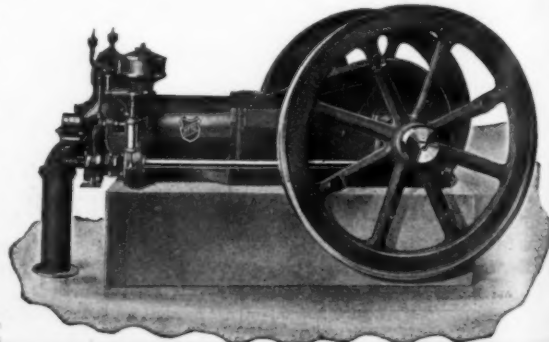
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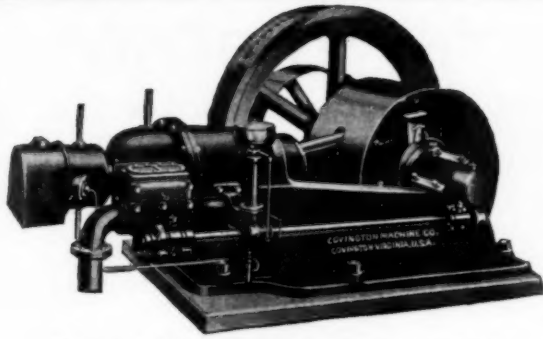
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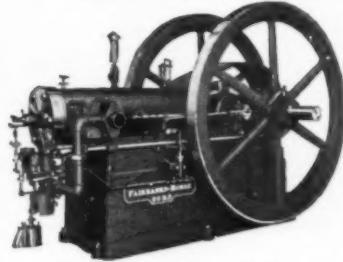
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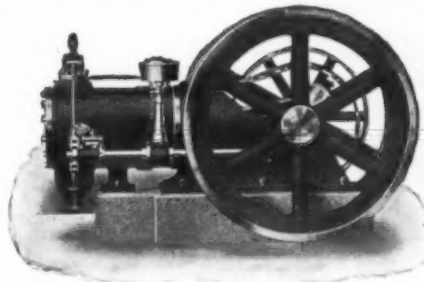
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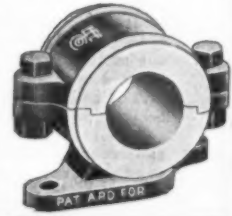
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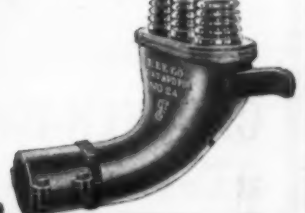
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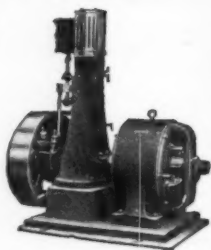
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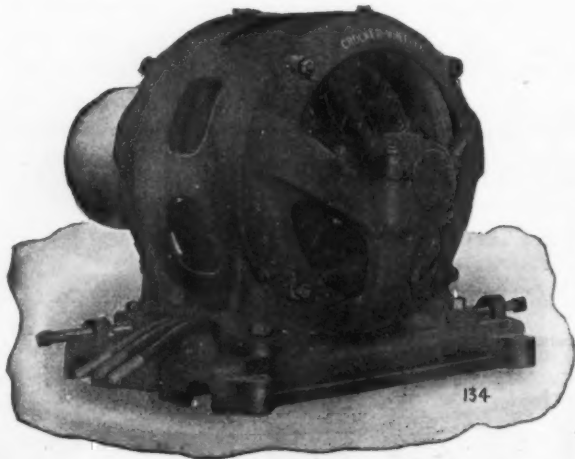
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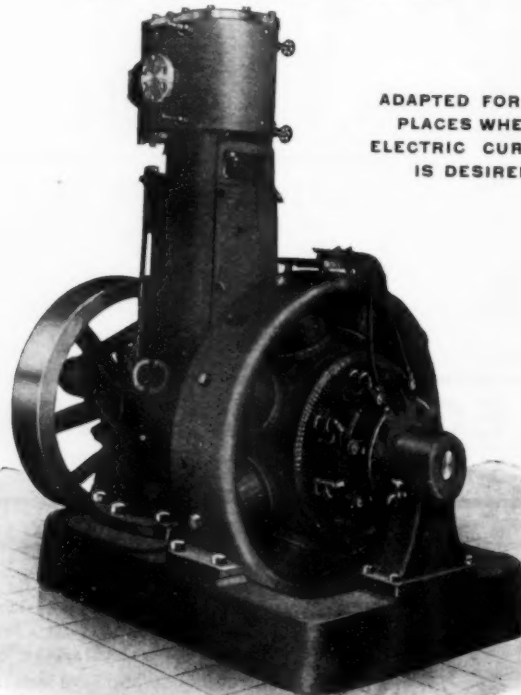
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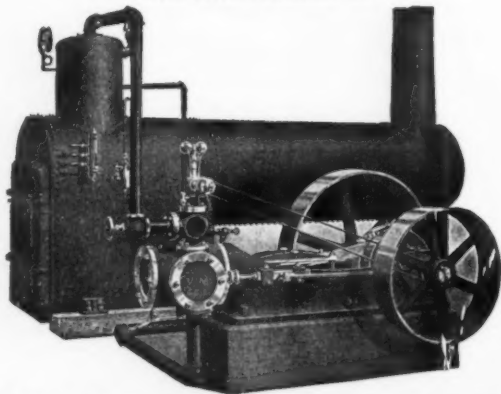
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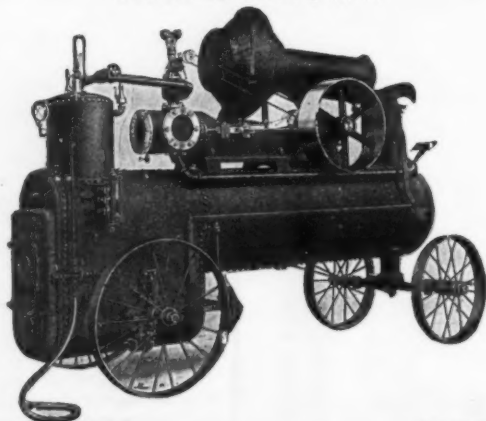
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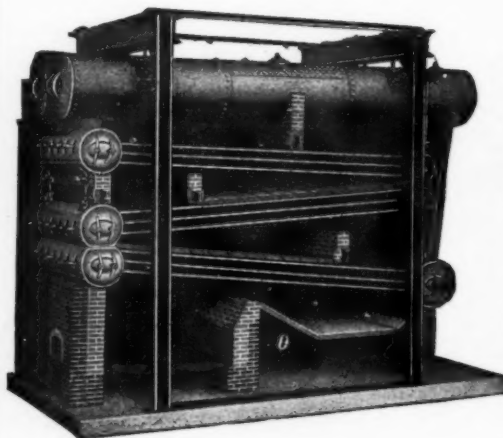
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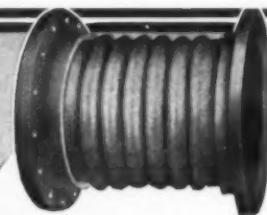
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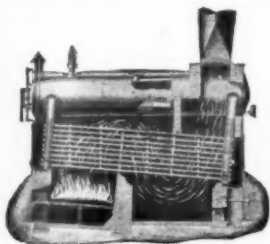
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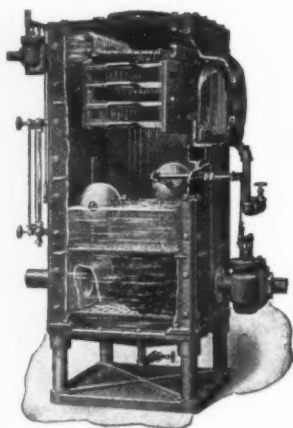
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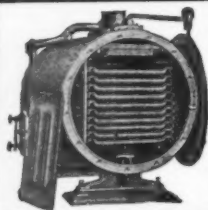
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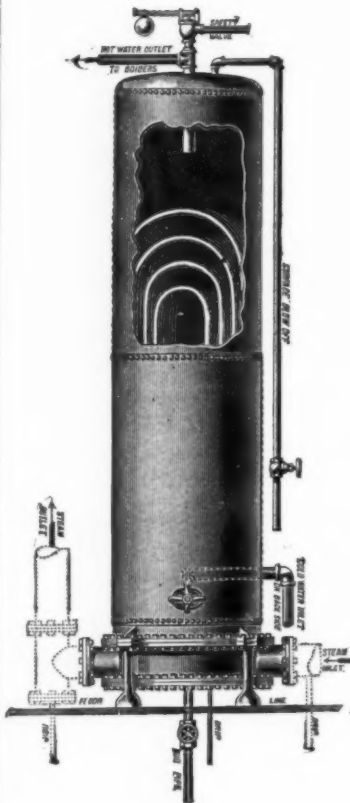
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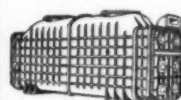
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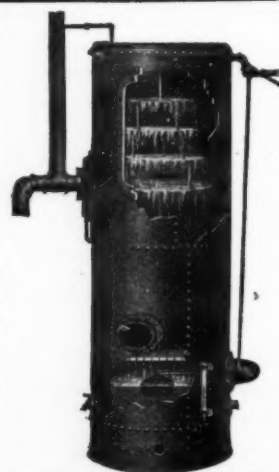
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Yours truly,
WEST YELLOW PINE COMPANY

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Please ship us as quickly as possible a duplicate of our recent order for grate bars.

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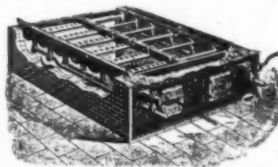
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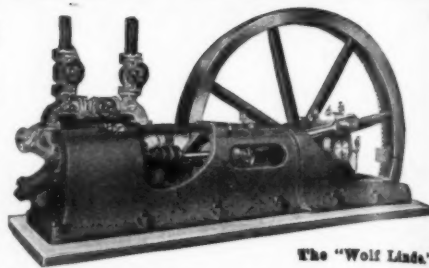
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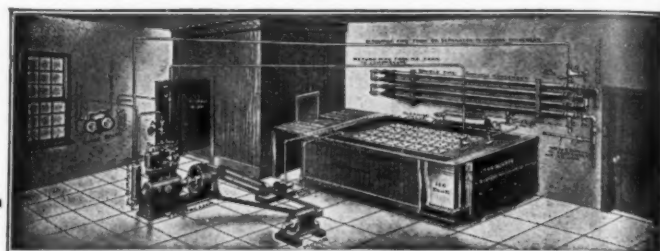
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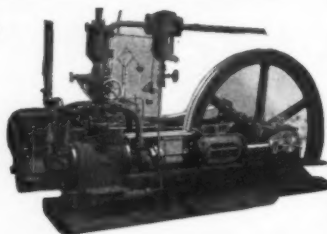
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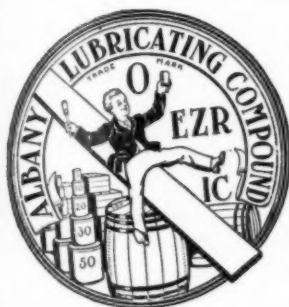
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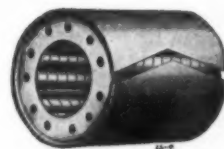
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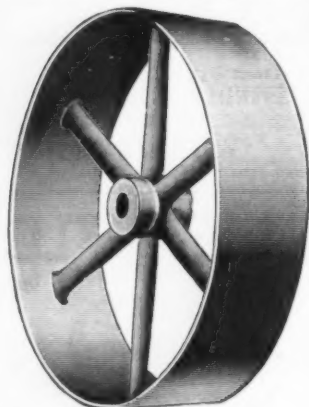
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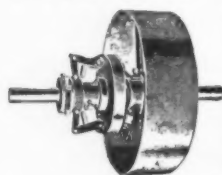
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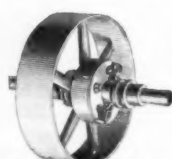
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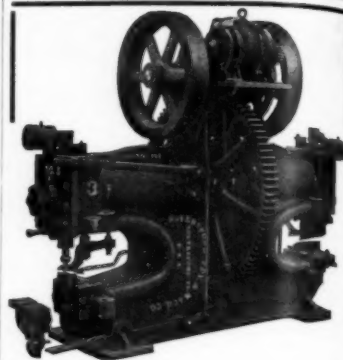
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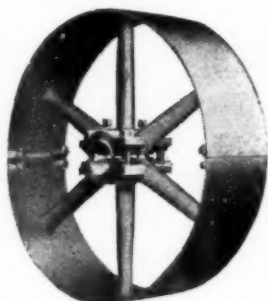
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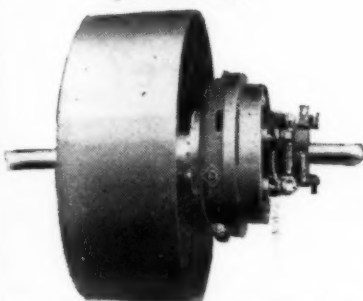
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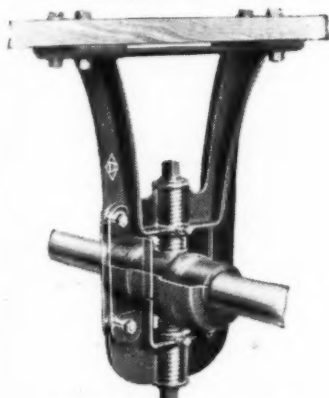




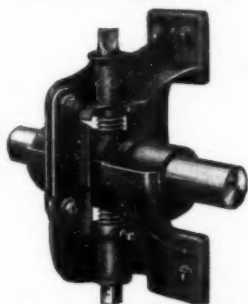
"Standard"
Split Iron Pulley



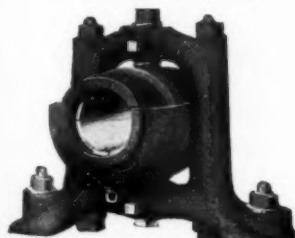
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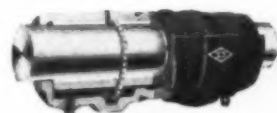
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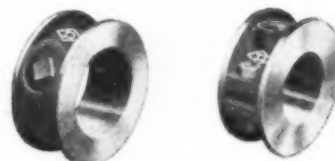
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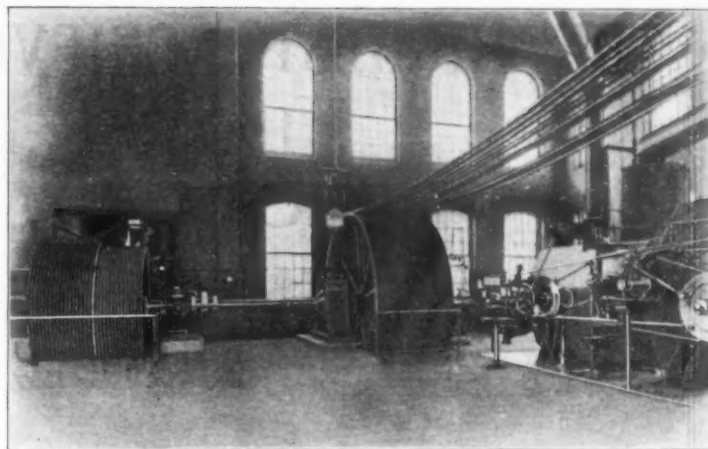
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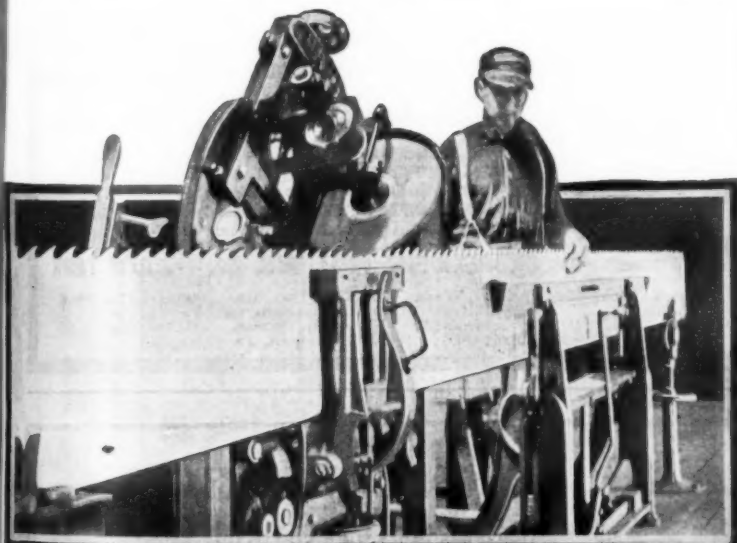
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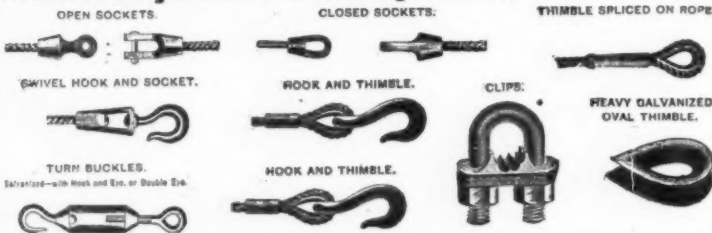
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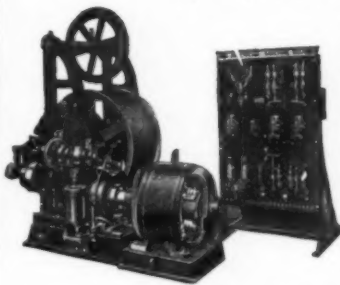
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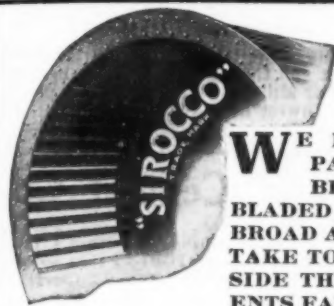
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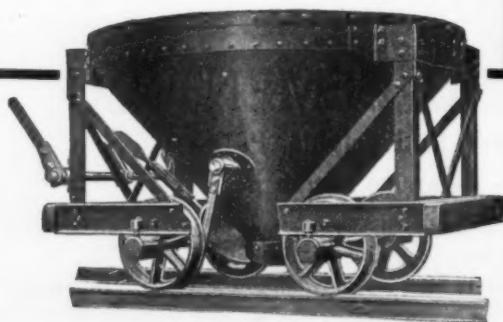
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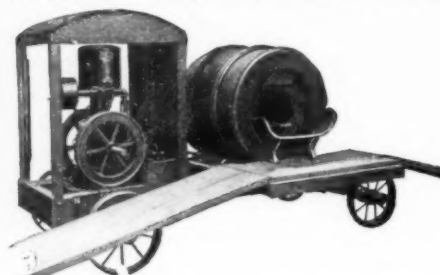
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Because they are guaranteed five times longer than our nearest competitors.

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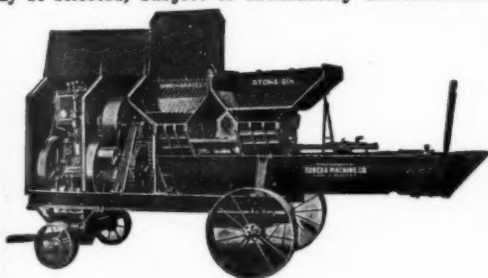
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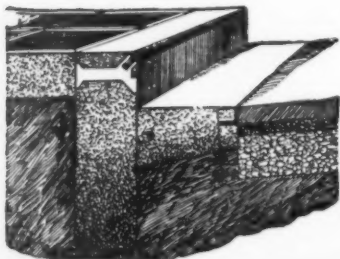
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ARCHITECTS are invited to read pages 242-243 "Sweet's Index"

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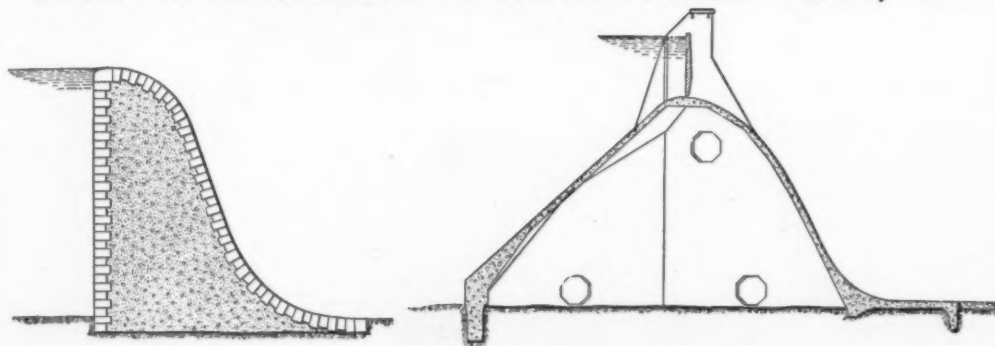
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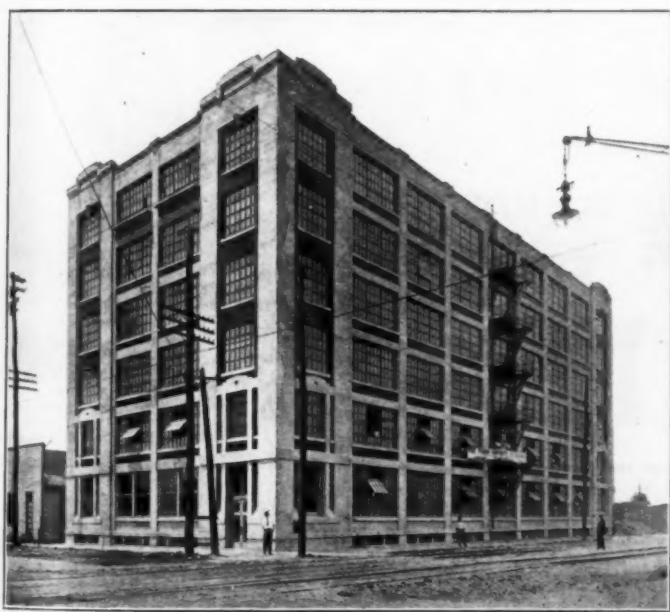
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This tank has not only proven a substantial and satisfactory piece of work, but we consider it a decided ornament to our development, and has in every particular met the requirements for which it was constructed.
In making this statement we will further add our thorough appreciation of the satisfactory manner in which our business relations with your company was conducted throughout.
Wishing you a continued and deserving success in your business efforts, we remain,
Yours truly,
CITY & SUBURBAN REALTY CO.
Geo. C. Wegefarth, Pres.



Baltimore, April 4, 1906.
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Baltimore, Md.
Gentlemen—After a year's test we take great pleasure in sending you a letter in reference to the steel tower, tank and observatory which your company erected for us at "Evergreen Lawn," Md.

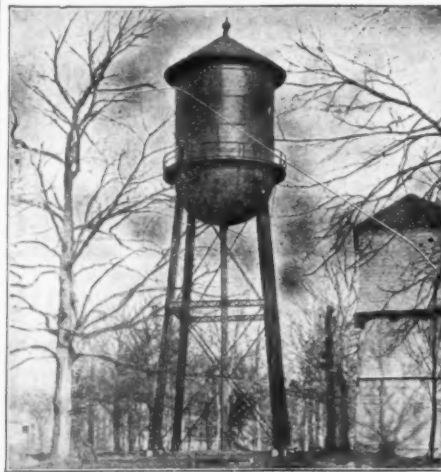
We consider it not only a great attraction, through the view it affords of the surrounding country to visitors, but also an ornament to our suburb. It is, therefore, a great pleasure to say: Your company gave us an outfit that more than pleases us in construction, workmanship, quality of material, beauty and in price.

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Yours truly,

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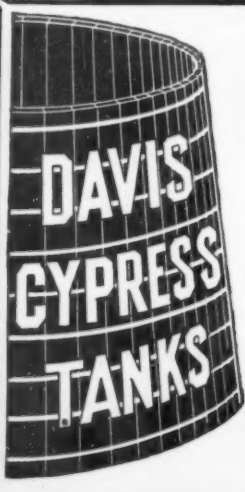
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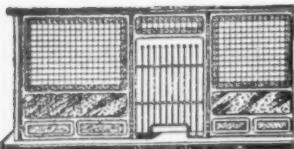
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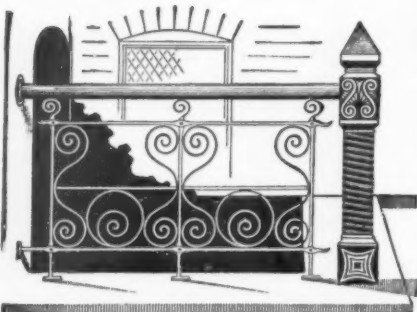
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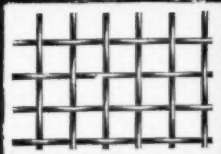
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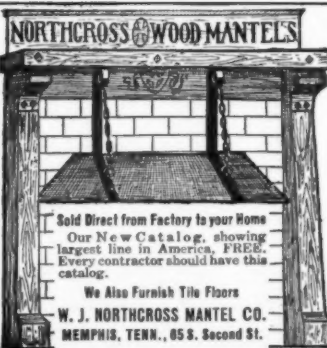
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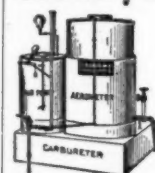
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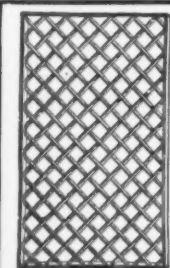
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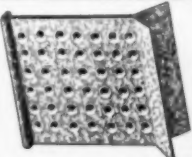
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All Colors Prices Right

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Low Cost, High Efficiency.
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Every architect should put them in his speci-
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THE YOUNGSTOWN SHEET AND TUBE COMPANY

YOUNGSTOWN, OHIO.



A Story of Success

Chapter II

The Growth of The Youngstown Sheet and Tube Company in Dollars and Cents

Incorporated	Nov. 21, 1900.	Capital, \$	600,000.00
Increased,	Nov. 28, 1900.	"	1,000,000.00
"	Sept. 10, 1901.	"	2,000,000.00
"	Jan. 23, 1902.	"	4,000,000.00
"	Jan. 10, 1907.	"	6,000,000.00
"	Jul. 1, 1909.	"	10,000,000.00
"	Jul. 25, 1911.	"	15,000,000.00

During the next year, the \$5,000,000.00 recently appropriated will be spent in building a new Open Hearth Steel Plant and additional Finishing Mills.

A growth so phenomenal as this can only indicate one thing:

THE YOUNGSTOWN SHEET AND TUBE COMPANY
in the ten years of its manufacturing existence, has always treated the Trade fairly in respect to quality of product and quality of service and the Trade has appreciated the treatment.



Next week Chapter III will deal with the growth of the Company's producing capacity.

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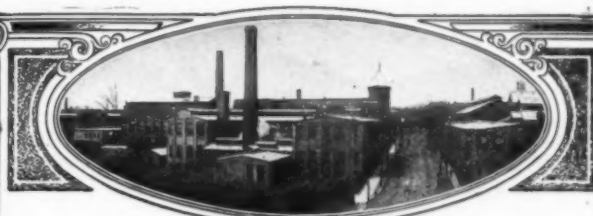
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"The Standard of Quality"
Fire-proof—Weather-proof—Acid-proof

Keeps buildings warm in Winter and cool in Summer. Sold by most dealers; or sold direct if not at your dealer's. Write for specimen of curious Asbestos rock and illustrated catalog No. 303.

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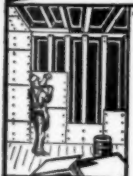
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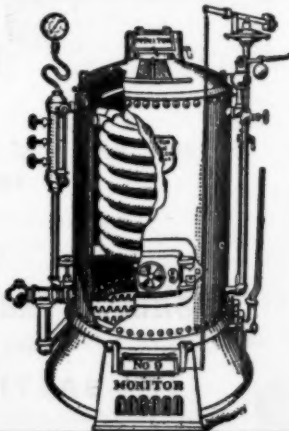
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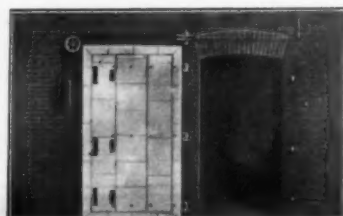
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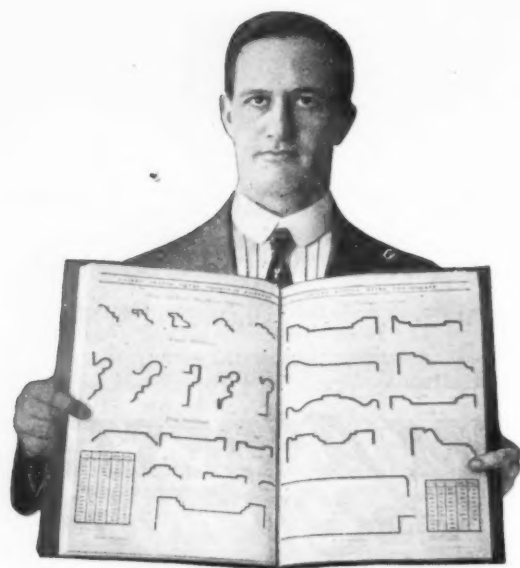


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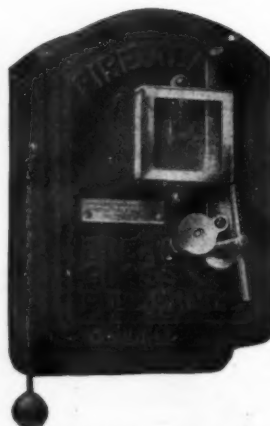
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LARGEST AND BEST LINE IN THE WORLD

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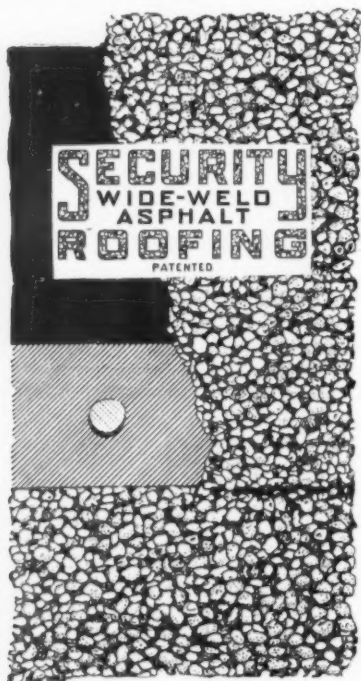
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ROOFING

PATENTED

Every nail-head is covered and permanently embedded in a six-inch, water-tight joint. There is not a single nail-hole through the roof.



The illustration shows how each sheet of Security Roofing is lapped over the 6-inch margin of the sheet below and welded to it with hard natural mineral-asphalt-cement.

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But all the nails are driven through the full thickness of the roofing, so that they hold with absolute security, and are also covered by the full thickness.

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With Improved "Lock That Locks"
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Some of them 18 years,
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without once calling it "the best."

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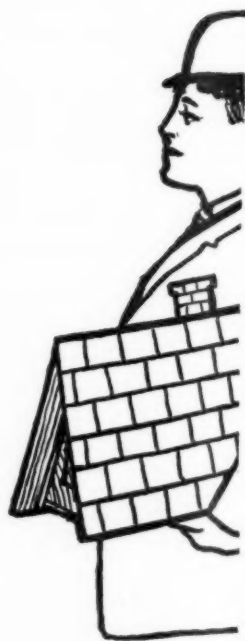
These facts are put forth in clear, plain and concise language that anybody can understand. The whole book makes interesting reading and enables you to post yourself on any roofing in the market in 15 minutes.

There is no obligation in sending for the book. It is free. Don't you think the foregoing statements make it worth your while to write for it?

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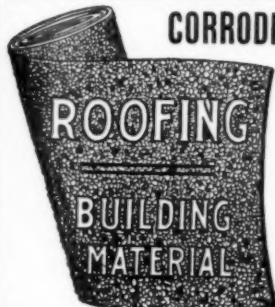
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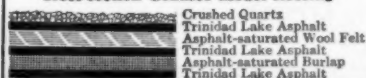
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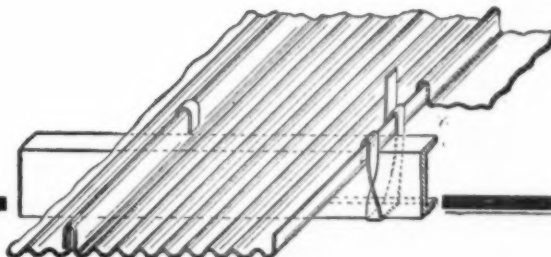
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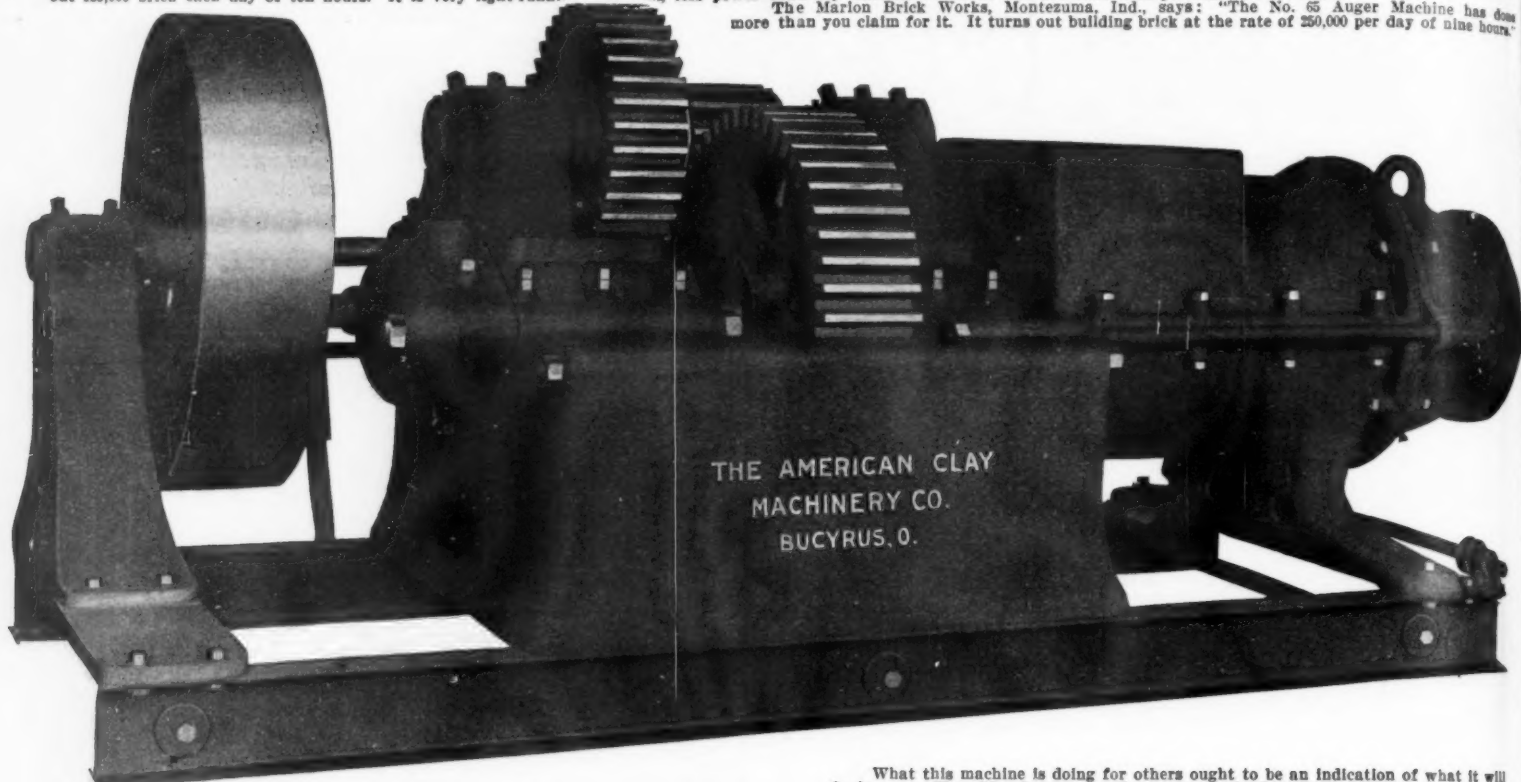
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The Alberta Clay Products Co., Medicine Hat, Alberta, Can.; The Minnesota Farmers' Brick & Tile Co., Austin, Minn., after looking over all the various Sewer Pipe and Tile Making Machinery, decided to award their contracts to us—not on account of "PRICE," but ON ACCOUNT OF "MERIT," and the kind of Machinery that they were getting. Not on account of the various "COLORED ADVERTISING" that is done. Not on account of the "TALK" of some glib-tongued Salesman—but on account of what the users of

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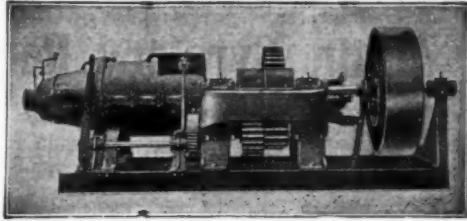
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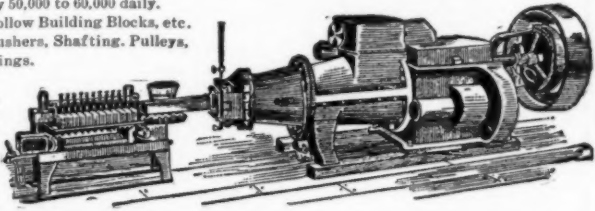
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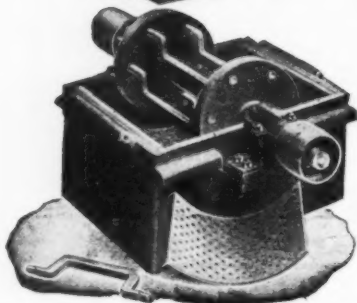
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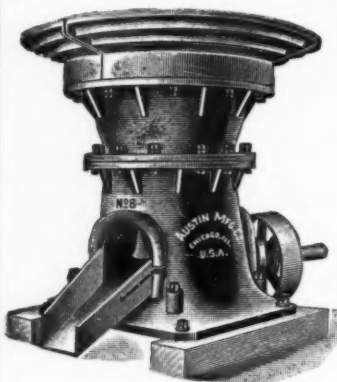
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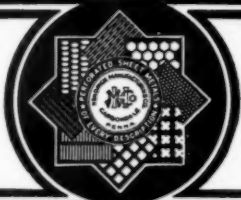
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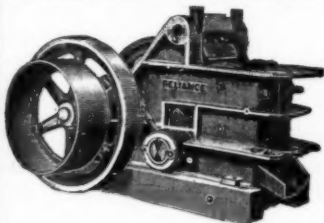
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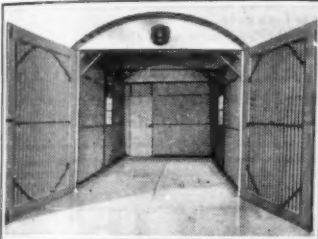
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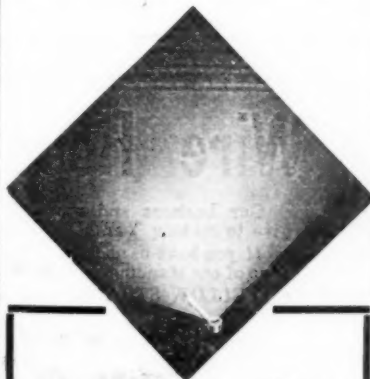
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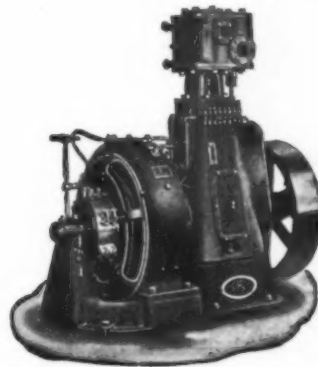
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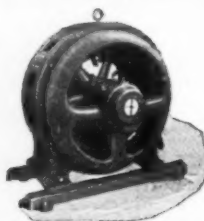
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A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER

Trade-Name Registered in the U. S. Patent Office.

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BALTIMORE, NOVEMBER 9, 1911

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BALTIMORE, NOVEMBER 9, 1911

IMPORTANT DEVELOPMENTS IN ALABAMA IRON INTERESTS.

The purchase by the Woodward Iron Co. of Birmingham of the Birmingham Iron & Coal Co. is one of the most important moves which has been made in the South since the purchase of the Tennessee Company by the United States Steel Corporation.

The Woodward Iron Co. has for many years been unusually successful. It has peculiar advantages not possessed by any other company in the district. It can probably produce pig iron at a lower cost than any other company in the United States, if not in the world, because its ore and coal and limestone are in closer proximity than the raw materials of any other company in the district, and these materials are all handled, with small exception, by its own railroad. Several years ago Judge Gary, testifying before one of the Congressional committees, stated that the Woodward Company could make pig iron at a lower cost than the Tennessee Company.

Through the purchase of the Birmingham Iron & Coal Co., which has two furnaces, over 40,000 acres of coal land and large ore properties, the Woodward Company greatly strengthens its holdings of raw materials, and thus gains ample supply to justify a large expansion of its producing capacity. This company has recently completed 60 by-product coke ovens, and it has

been reported that it is contemplating enlarging this plant. There have been many rumors circulated from time to time as to the probability of the construction by the Woodward Company of a large steel plant, but confirmation of these rumors or any information in regard to them is withheld by the company, which, by the way, has been noted for many years for saying very little about its plans or its operations, and pursuing the even tenor of its way, avoiding all possible publicity.

It is reported from Birmingham that the Woodward Company, when it completes the purchase of the new property, will be capitalized at about \$22,000,000.

This purchase will have a stimulating effect upon the whole district. It will show that the most prosperous iron company in Alabama, the one which for the longest period has been phenomenally successful, recognizes the possibility of a great enlargement of its operations.

It seems practically assured that the merger of the Alabama Consolidated Coal & Iron Co. and the Southern Iron & Steel Co. will shortly be completed, thus putting these two companies, through the combination, in shape for large development of their vast coal and iron interests, and for the increase of the output of steel products at the Gadsden plant.

These two movements, when considered together, are of unusual interest and of far-reaching importance. They are the first big undertakings that have been carried out in the development of iron and steel matters in the Birmingham district since the purchase of the Tennessee Company by the Steel Corporation.

ATTRactions OF FLORIDA'S WEST COAST.

The Tarpon Springs *Leader* tells of a movement inaugurated in that city to erect a large and modern hotel. "The idea," says the *Leader*, "is to purchase the site of the former hotel and erect thereon a three-story brick structure with a frontage on Tarpon avenue of 110 feet and to contain at least half a hundred rooms, with modern improvements.—*Florida Times-Union*."

Tarpon Springs is too beautiful a spot, too ideal as a winter resort, to be content with a 50-room hotel. It is one of the many places on the West Coast of Florida which has attractions enough to justify its becoming a center of many and big hotels. If the railroads of the West Coast would properly co-operate with the people of that marvelously attractive region, it could be made in a few years one of the greatest tourist and health resort regions of this or any other land.

WHAT THE SOUTH HAS TO SHOW CHEMICAL MANUFACTURERS.

It has now been definitely settled that the International Congress of Applied Chemistry will convene in Washington on September 4, 1912, and that President Taft will preside over the first formal sessions. His address of welcome will be responded to by representatives of the powers of probably more than forty nations. Before the formal opening, and for a day afterwards, opportunity will be given for excursions to nearby features of interest, as well as to the great pure-food laboratories of the Agricultural Department, the bureau of standards, the National Museum, etc., besides historic Mount Vernon. A point will be made of taking the chemical manufacturers to Great Falls as a typical example of the water-powers so frequent along the "fall line" of the Piedmont plateau, as at Richmond, Lynchburg, Danville and scores of places in North Carolina, South Carolina and Georgia.

The congress will convene again on September 6 in New York for sessions for the reading of papers. The congress is so large that it will be necessary to subdivide into more than twenty sections, each devoted to some special branch of chemical science or manufacturing. Thus one section will discuss fuels of all kinds, particularly the supply available of each kind in the United States, their relative cost and the localities which offer adequate supplies at the lowest cost to the manufacturer.

Similarly every other factor in the development of chemical industries in this country will come up for consideration, for it is a foregone conclusion that the main object of the visit of hosts of the foreign members will be to look over the prospect of establishing factories near our stores of raw materials. It is conservative to estimate that the representatives of at least half a billion dollars already invested in chemical plants will be on hand at this meeting.

Beyond doubt, the papers read will amply describe the wealth of raw chemical materials in the South, but those interested could read these papers at leisure at home without the expenditure of time and money for personal attendance. The only way, however, that these men can fully understand these deposits is to come in person and, after hearing the descriptions, actually visit such places as seem most worth while. It is well understood that it is this feature of personal visits that is assuring such a large attendance.

At least 7000 persons attended the impressive opening by the Prince of Wales of the last session of this congress in London three years ago. But this attendance included, besides the delegates, many persons attracted merely by such an unusual gathering of scientists and manufacturers.

The great problem of just how to take care of this desire to inspect our raw chemical materials is now being worked out by the executive committee of the congress. One subcommittee is arranging to facilitate the ocean journey, chartering suitable steamship accommodations, etc., for a time when the capacity of ocean craft will already be taxed by home-coming Americans. Another is arranging the routes of excursions both before and, especially, after the main sessions of the congress, and through the local members of the executive committee in all parts of the country all owners of mineral deposits and manufacturers of chemical products are invited to state what inducements in the way of facilities for inspecting these features they can offer, in order that the committee may choose among the rival localities in our great stretch of country to provide for the visitors' seeing the most with the least expense of time. It goes without saying that there will not be time for seeing everything.

The MANUFACTURERS RECORD feels that the opportunity is record-making, and that really not only everything in the South should be open, but that the owners of mineral deposits and of factories should welcome these visitors. Moreover, they will vie with other sections in making the visitors feel at home. But it is proper for each would-be host, whether an individual owner of a mine, or a corporation, or a chamber of commerce at some industrial center, to send a clear statement to the nearest member of the executive committee of what can be seen and the facilities for seeing it. The members of the executive committee include Dr. W. B. D. Penniman of Baltimore, Md., for the seaboard States of the South, and Prof. W. B. Dudley of Vanderbilt University, Nashville, Tenn., for the interior Southern States. Or letters sent to Dr. David T. Day, secretary of the Washington (D. C.) members, will receive careful attention. Resident members of the American Chemical Society have also been asked to aid by placing before the executive committee the claims of various localities where there is something for the investor to see.

These committeemen, of course, already know fairly well what features are most necessary for properly showing off the United States, but it is quite another matter to have authoritative assurance that proper facilities for inspection will be prepared. Now, what can and will the Southern section show these visitors? A mere enumeration of the different raw materials not only is a gratifying illustration of the South's resources, but emphasizes many peculiarly Southern features, thus:

Sulphur.—The deposits in Southern Louisiana, so great and so successfully developed by Frasch, will do more than any other one feature to entice from New York to the Gulf shore, and already the congress is assured a hospitable

welcome to the center of the sulphur industry which dictates the trade of the world.

Salt.—But close by the sulphur, at Avery's Island, Belle Isle, Petite Anse, Orange Island and farther north, at Pine Prairie, there are rock-salt deposits which rank among the greatest and most economically mined in the United States. These are additional attractions to the chemists. Will access to them be offered by the owners?

Oil.—On the trip to the salt and sulphur mines, without extra railroad fare, the visitors can see the oil wells of Vinton, Jennings, Welch and Anse la Butte—characteristics of the dome-formation oil pools of the Gulf field. A slight swing to the west would bring the excursionists to Beaumont, Houston and its turning basin for Gulf vessels, Galveston and Port Arthur with oil-exporting facilities and their large refineries. Again the question, Will the chambers of commerce of these enterprising cities come forward and organize visits to these points? Promptness is necessary.

Natural Gas.—If the mineral resources already mentioned prove sufficient drawing attractions, it would be only just to visit enroute the no less important attractions in other sections. Thus the route might easily be by way of Shreveport, La., where opportunity should be given to see the greatest known gas field and the great oil gushers of the Caddo field. The facilities for the development of cheap power for all purposes from gas at Shreveport are just what the citizens of that place wish to show, and also just what these men wish to have shown to them. The inquiry has come to us, What will be expected of Shreveport? The answer is simple: Get together and send an invitation, listing the natural resources and the factories that will be shown, and lay out a program for a visit of one day or two days, showing just how the visitors will be cared for from the time they reach the station until they leave; just what it will cost each visitor, and what hospitality, such as luncheon, dinner, lecture, trolley excursions or automobile trips, etc., will be extended by the city. Upon such information the committee can and will act intelligently and quickly.

Agricultural Products.—Cane, cotton and corn wealth should be shown, and especially the refineries for sugar, cotton oil, starch, glucose, etc., and these can be associated in the minds of the visitors with the shipping facilities of New Orleans by the Gulf, the bayous and the river.

Phosphate.—It might be a tax, perhaps, for the visitors to extend their trip across to Florida to see the phosphates and the fuller's earth of that State, the latter being known all over Europe as "Florida earth." But this depends upon the facilities offered. The chemists could at least stop on the way north and study the iron, coal and limestone of the Birmingham district, and the great iron and steel developments of that section, and keep on to the Tennessee phosphate fields, and thence to the copper mines of Ducktown with the utilization of sulphur fumes in the production of sulphuric acid. This route would point them across the mountains to the Piedmont plateau and its wealth of water-powers, and farther north, in Southwest Virginia, those who are interested could stop over to see zinc, barytes, iron ores, pyrite, etc.

What has been cited is sufficient, perhaps, to bring to mind many other resources equally demanding development if the South is to take the high rank it is entitled to as a chemical center, and the columns of the MANUFACTURERS RECORD are open to suggestions on these points, and to invitations to our friends from across the sea. The main point to be borne in mind is that now is the time for the South to claim its own.

HOW TO DEVELOP THE CITIES OF THE SOUTH.

Mr. F. W. Blair, president of one of the leading financial institutions of Detroit, in a recent interview in the MANUFACTURERS RECORD, in referring to the remarkable increase in population and in the manufacturing interests of that city, gave as a reason therefor the activity on the part of the business men of Detroit in putting their own money into industrial enterprises. Mr. Blair called attention to the fact that practically every business man of standing in the city is interested in at least two or three important manufacturing enterprises, and that the readiness of Detroit people to invest their money in these industries has resulted in the development there of such great plants, employing many thousands of hands, as that of the Packard Automobile Co., the Burroughs Adding Machine and others of equal extent, all brought there through the energy of the people who backed their faith in Detroit with their money.

A somewhat similar line is indicated in an advertisement of another Michigan city whose Board of Commerce is announcing that it "desires to enter into correspondence with manufacturers interested in the relocation of their plants or the establishment of branch factories on a somewhat different line from the usual city development propaganda," and this unusual line as announced is as follows:

There is an abundance of local capital

available, and the men in control of it have determined to use it so far as possible in the development of local enterprises in the city that made them wealthy.

This is a striking statement. It will command attention everywhere. It ought to be seriously studied by every man interested in the prosperity of the South. Here is a city in which, according to this official statement, local men have determined to use the money made in that city in the development of local enterprises for its further expansion, and thus for the further increase of their own wealth. To a limited extent this may be true in other cities, but suppose it were broadly true of the whole South, what a mighty change would soon take place in this section! If every man of means in Baltimore and Richmond and Norfolk, in Lynchburg and Danville, in Atlanta and Birmingham, in Savannah and New Orleans, in Nashville, in Memphis, in Houston and in hundreds of other places throughout the South recognized that the investment of money in the development of industrial interests in his own community offered the broadest field for ultimate profit through the growth of his city, as well as the earnings of the industrial interests in which he invested, what a mighty change there would be! Many people in the South who have grown rich by the enhancement in the value of property or through the development of business interests cannot be induced to give to investigation and investment in manufacturing enter-

prises the attention and energy given to such things in the prosperous, growing towns of the West.

Mr. Blair made the statement, in speaking of Detroit, that no good industrial enterprise need look in vain in that city for money if it were found that it was of such a character as to give promise of success. How many industrial enterprises have looked in vain for local capital in every part of the South? How many manufacturers have at times received scant courtesy from the banks and financial interests of various communities when their financial co-operation was asked? Any bank or capitalist can lend money on listed collateral. That, however, does not require any particular amount of brain work. It does require, however, brain work and business ability to be able to wisely investigate and decide as to investments in or loans to manufacturing enterprises. But the South will never attain its full development nor realize on its potentialities until this industrial spirit has been given new life as the real foundation of Southern prosperity.

ROAD-BUILDING IN THE SOUTH.

Sixteen Southern States, including Missouri and Oklahoma, will spend this year upon their roads \$45,990,354, or something more than 32 per cent. of the \$141,291,125 spent upon roads in the whole country, according to figures compiled by Acting Director Paul D. Sargent of the office of public roads in the Department of Agriculture. The approximate figures by States, showing expenditures from State aid funds, from local bond issues and from local revenues, are shown in the following table:

Approximate Road Expenditures in the Southern States in 1911.

State.	State aid.	Local bond issues.*	Local revenues.*	Total.
Alabama.....	\$154,000	\$2,330,000	\$1,000,000	\$3,484,000
Arkansas.....	.....	.....	2,450,000	2,450,000
Florida.....	.....	755,000	1,505,000	2,260,000
Georgia.....	.....	.....	2,500,000	2,500,000
Kentucky.....	.....	.....	2,500,000	2,500,000
Louisiana.....	132,354	.....	1,000,000	1,132,354
Maryland.....	1,250,000	.....	1,000,000	2,250,000
Mississippi.....	.....	1,130,000	2,000,000	3,130,000
Missouri.....	300,000	.....	2,500,000	2,800,000
North Carolina.....	5,000	2,500,000	2,000,000	4,505,000
Oklahoma.....	5,000	.....	1,500,000	1,505,000
South Carolina.....	.....	100,000	1,000,000	1,100,000
Tennessee.....	1,400,000	.....	2,500,000	3,900,000
Texas.....	1,600,000	.....	6,000,000	7,600,000
Virginia.....	300,000	2,454,000	1,250,000	4,004,000
West Virginia.....	.....	625,000	1,000,000	1,625,000
Total.....	\$2,146,354	\$12,894,000	\$30,950,000	\$45,990,354

*Estimated.

†Other local bond issues, but information lacking.

Approximate Road Expenditures in Other States, 1911.

State.	State aid.	Local bond issues.*	Local revenues.*	Total.
Arizona.....	\$150,000	.....	\$175,000	\$325,000
California.....	\$2,067,500	1,500,000	3,500,000	7,067,500
Colorado.....	162,000	.....	1,000,000	1,162,000
Connecticut.....	\$2,000,000	.....	2,275,000	4,275,000
Delaware.....	30,000	300,000	100,000	430,000
Idaho.....	53,000	.....	500,000	553,000
Illinois.....	65,000	.....	5,000,000	5,065,000
Indiana.....	.....	.....	4,500,000	4,500,000
Iowa.....	.....	.....	3,500,000	3,500,000
Kansas.....	6,500	93,356	1,500,000	1,599,856
Maine.....	250,000	.....	2,000,000	2,250,000
Massachusetts.....	1,000,000	.....	2,500,000	3,500,000
Michigan.....	\$250,000	2,216,000	3,500,000	5,966,000
Minnesota.....	79,300	.....	2,000,000	2,079,300
Montana.....	.....	.....	500,000	500,000
Nebraska.....	.....	1,000,000	1,000,000	2,000,000
Nevada.....	.....	.....	50,000	50,000
New Hampshire.....	375,000	.....	1,000,000	1,375,000
New Jersey.....	500,000	.....	4,500,000	5,000,000
New Mexico.....	\$100,000	.....	200,000	300,000
New York.....	\$5,300,000	.....	7,000,000	12,300,000
North Dakota.....	.....	.....	1,000,000	1,000,000
Ohio.....	600,365	.....	6,000,000	6,600,365
Oregon.....	.....	1,500,000	2,000,000	3,500,000
Pennsylvania.....	4,000,000	.....	7,500,000	11,500,000
Rhode Island.....	97,000	.....	500,000	597,000
South Dakota.....	.....	.....	500,000	500,000
Utah.....	355,750	.....	500,000	855,750
Vermont.....	450,000	.....	1,000,000	1,450,000
Washington.....	\$900,000	.....	2,000,000	2,900,000
Wisconsin.....	390,000	.....	2,000,000	2,390,000
Wyoming.....	10,000	.....	500,000	510,000
Total.....	\$18,891,415	\$5,609,356	\$70,890,000	\$95,390,771

*Estimated.

†Other local bond issues, but information lacking.

‡Just begun expenditure of \$18,000,000 State bond issue for constructing State roads.

Compared with 1904, the year 1911 is marked by relatively greater expenditures for roads in the South than in the rest of the country. In 1904 the South spent \$23,000,000 upon its public

about \$25 for each square mile of its territory, while those of New York represent nearly \$252 for each square mile of its territory, and the expenditures in North Carolina and Pennsylvania for

each square mile of territory are \$92 and \$256, respectively. Here are hints of the task before the South as a whole. As much as it is doing already, it must do still much more before it can point to its highways as attractions for the men of other sections whom it would number among its producing citizens.

WHY THE SOUTH SHOULD DEVELOP LOCAL INSURANCE COMPANIES.

When one considers the enormous drain upon the South of the tens of millions annually expended for insurance, and of tens of millions running into the hundreds of millions paid out every year for grain, provisions and other foodstuffs which could to better advantage be raised at home, and the enormous expenditures for other things which this section could with its present population, if fully employed and fully utilized, produce to better advantage than it can buy, the wonder grows that the South's wealth can increase as it has done during the last 10 years. Its contribution to the upbuilding of the vast financial interests represented in the insurance companies of the North, its contribution to the wealth of Western farmers producing grain and meats, its contribution to the National Government for pensions practically all of which go to other sections, have been tremendous handicaps. That it has met these disadvantages and made the phenomenal progress of recent years is the highest possible tribute that could be paid to its inherent resources and advantages for the farmer, the merchant and the manufacturer. It has stood this great drain and yet grown rich. What it has been losing in the matter of insurance, and how this loss can be lessened by the development of insurance companies in the South on sound and legitimate lines, is very clearly presented in this issue by Mr. F. H. McMaster, Insurance Commissioner of South Carolina. The facts as presented by him should be carefully studied by every man interested in the welfare of the South.

THE FAR WEST'S SUCCESS IN WORKING THE PUBLIC.

Wasn't it a bit cruel just when the Governors of six Western States are traveling eastward with a trainload of exhibits in order to entice the people of the East to leave this goodly region and seek a home in the Far West for a Portland, Ore., correspondent of the New York Sun to warn "the Eastern 'easy marks' to stop and think a bit before leaving a good city and the friends of a lifetime to emigrate to the so-called Golden West?"

This correspondent tells a tale of conditions on the Pacific Coast dismal enough to frighten any man who has been tempted by the literature of that section. The amazing skill in advertising, as illustrated in this trip of the Western Governors, who are coming East for the sole purpose of inducing Eastern people to leave their own country and emigrate to the West which enables them to make some places in the East herald their coming as though a great honor was being conferred, is certainly one of the wonders of the day. These Western Governors, backed by the power of the honored position which they hold, are pure and simple advertising agents, or promoters seeking to draw Eastern men and money into their country. They have played the game with such exceeding shrewdness that

they have made some people believe it will actually be a great honor to any community to have the privilege conferred upon its people of studying the resources of the West which they have so artistically displayed in their exhibition cars and to listen to their bewitching tales of the charms of the Far West. No people on earth ever displayed greater keenness in "working" the newspapers and the people of other sections than have the people of the West, from Governors and railroad officials to land operators, in the campaign of publicity which for years they have been so unceasingly conducting. They have handled the matter with such skill that instead of their plans to induce people to travel through the West and to buy Western land being regarded as slick advertising propositions, pure and simple, many people, especially those who come under the heading of the New York Sun's correspondent of "easy marks," feel that they are actually honored by being permitted to correspond or do business with these Western men. No intelligent man can do otherwise than give credit to them for a shrewdness in "working" the public unequaled by any one else since the days of P. T. Barnum, who believed that the people loved to be fooled. How many millions of Eastern money and how many thousands of Eastern people will fall into the trap? In this case, contrary to scriptural idea, the net is spread before the birds, and they scramble for the privilege of being caught. Imagine a train load of Southern Governors with exhibits of the South's resources going up and down the Pacific Coast to draw people to the South, and imagine how much heralding of their mission would be given by Pacific Coast newspapers!

REDUCED FREIGHTS FOR IRON NEEDED.

The Wall Street Journal reports that there are indications that the railroads operating in the steel and iron districts in Western Pennsylvania and Eastern Ohio will grant liberal reductions in freight rates on iron ore, coal and coke. If this be true, as it probably is, it emphasizes the importance of a similar reduction in the South. In former periods of depression in the iron trade the railroads always reduced their freight rates, advancing them again with the increase in the selling price of iron. The iron people feel that this should be done now, because for the last two or three years the iron interests of the South, as the iron interests of the whole country, have been going through a long period of depression with but little profit, and in most cases none. On the other hand, the railroads claim to be afraid to make any reduction on the ground that as the Interstate Commerce Commission now regulates freight rates, it would be difficult, if not impossible, for the roads to advance their rates when higher prices return for iron, and, therefore, that they are compelled to maintain the present situation.

If, however, the many advantages of Pennsylvania and Ohio in iron and steel-making are to be still further strengthened by a reduction in freight rates on ore and coal and coke, following the reduction of freight rates on Lake Superior ore, then it is pre-eminently important, if the South is to meet this competition, that the railroads should act promptly in meeting any reduction in the North by equally

as large a reduction in the iron regions of the Central South.

THE COTTON MOVEMENT.

According to the report of Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, the amount of cotton brought into sight during the first two months of the present season was 4,352,001 bales, an increase over the same period last year of 718,210 bales. The exports were 2,365,876 bales, an increase of 422,692 bales. The takings were, by Northern spinners, 391,070 bales, a decrease of 54,259 bales; by Southern spinners, 453,432 bales, an increase of 29,049 bales. The amount brought into sight during 64 days of the season were 4,629,884 bales, an increase over the same period last year of 738,010 bales. The exports were 2,514,344 bales, an increase of 469,683 bales. The takings were, by Northern spinners, 439,754 bales, a decrease of 56,999 bales; by Southern spinners, 480,932 bales, an increase of 28,142 bales.

How a Railroad May Help a Section.

[Pensacola (Fla.) Evening News.]

Although it is of particular interest to the other side of the State, the Evening News wishes to call the attention of its readers to a unique advertising campaign recently inaugurated by the Florida East Coast Railroad. The advertisements are to be about Florida, and the first appears in this week's issue of the MANUFACTURERS RECORD. As one may note by this initial ad, which we are reproducing in part below because of its value as an optimistic educator and booster of the section, this series promises to be a rather striking presentation of the resources and attractions of Florida for industrial operations as well as for agricultural pursuits.

Being paid for by the East Coast Railroad, this series will no doubt deal principally with that section of the State through which Mr. Flagler's road runs. Now, would it not be a splendid and admirable thing for the railway in this section of Florida (there is but one, the L. & N.) to begin such a campaign for West Florida. It would bring business to the road and the territory—and the richer the road the richer the territory. It would also result in a kinder feeling for the Louisville & Nashville from this public, which has not forgotten that the company has already spent thousands of dollars in Pensacola and West Florida, has invested more in its terminals here than in any port it reaches, and has had a tremendous payroll in this city which it has met with regularity for year and years. But in return the L. & N. has made a splendid living by its business in West Florida, and owes the section all and more than it has done for it, so the Evening News suggests to the L. & N. the inauguration of such a campaign as this one inaugurated by the Florida East Coast Railroad, and which will undoubtedly result in thousands of dollars of benefit for that part of Florida and that railway. The F. E. C.'s full page ad, in the MANUFACTURERS RECORD in part is as follows under the head of "The Call of Florida:"

"Between 1900 and 1910 the population of the United States increased 21 per cent. During the same period the population of Florida increased 42.4 per cent.

"Thus Florida's population increased twice as rapidly as that of the entire country.

"Its rate of increase was greater than that of any other State east of the Mississippi River.

"The material advance of the State as illustrated in the increase in agricultural

wealth was in keeping with this growth in population.

"In the 10 years, 1900 to 1910, the increase in value of farm lands in the United States was 118 per cent. During the same period the gain in Florida was 203 per cent.

"Between 1900 and 1910 the increase in the value of farm buildings in the United States was 77 per cent. In the same time the gain in Florida was 144 per cent.

"Prosperity begets prosperity. The momentum of growth swells with an accelerating pace.

"The Call of Florida' has been heard throughout the land. The gain in its population during the last 10 years has been merely the advance guard of the pioneers.

"For every hundred persons who were even thinking of Florida 10 years ago, a thousand persons are now studying the State with a view to making it their home.

"In the past people thought of Florida mainly for its ideal climate, its outdoor life amid flowers and palms in the months when biting, blasting blizzards made life almost unendurable in other sections.

"Or they thought of it as a place which could produce oranges and grape fruit.

"Now they think of Florida not only for these reasons, but also because they realize that it possesses a variety of resources which make possible the widest and most profitable diversity of agriculture and manufactures."

Use of Dynamite in Breaking Soil.

Mr. H. H. Greene of Saginaw, Mich., writes to the MANUFACTURERS RECORD regarding the article in our issue of October 26 on "The New Farm Hand," the use of dynamite in farming:

"What has prompted me to write you are the statements made—'It costs exactly \$14.44 to subsoil one acre of land, and the work is done for 20 years,' and 'Once the land has been so subsoiled it is droughtproof for 20 years.' As a matter of fact, any such subsoiling as described might show beneficial results for two or possibly three years, but for such a period as specified it is an impossibility, and such claims are absolutely ridiculous. Anybody who has tilled the soil knows the fallacy of the statements made, and it seems a pity that such articles should appear at this time when so many city people are looking toward the country as a place where they can make a living, and having read such articles as the one referred to they get ideas which mean certain failure if applied when such individuals do go to the country.

"There is another statement which is wrong: 'The new method eliminates to some extent the world-aged practice of hand plowing.' It will do nothing of the kind. The use of dynamite is going to prove of vast benefit in heavy soils, but it will undoubtedly have to be used about every other year to keep the lower soils open.

"I trust you will pardon this letter, but I see so many articles being published which are very misleading that I cannot at times refrain from some comment on same."

The Tennessee Association for Highway Improvement has been chartered at Nashville with C. C. Gilbert, W. W. Patton, Joe Yowell, P. A. Shelton, Jr., and A. P. Foster, incorporators.

A dispatch from Bainbridge, Ga., states that C. H. Caldwell has sold to the Babcock Lumber Co. of Babcock, Ga., and Pittsburgh, Pa., 2000 acres of timber land in Baker county for \$75,000.

Great Deals in Southern Iron, Coal, Timber and Water Power.

ACQUIRE IRON AND COAL LANDS.

Woodward Company Adds to Its Holdings in Birmingham District.

[Special Cor. Manufacturers Record.]

Birmingham, Ala., November 6.

The formal announcement of the acquisition of the properties of the Birmingham Coal & Iron Co. by the Woodward Iron Co. has just been made. In view of the fact that the mineral properties involved in the transaction mentioned are considered among the most valuable in the Birmingham district, the result of the merger will be awaited with considerable interest. It is noted that the coal mines at Mulga, Ala., developed by the Birmingham Coal & Iron Co. during the past year, and considered one of the most modern equipped operations in the district, is included in the sale to the Woodward Iron Co. This mine is on one of the best seams, in what is known as the "Pratt Basin," is the same seam as is being worked by the purchasers at Dolomite, Ala. With this acquisition the Woodward Iron Co. will be able to materially increase its coal output for coking at the retort ovens just recently completed, and which it is understood will now be increased to a much larger battery without a change of operations. Track privilege over the branch of the Atlanta, Birmingham & Atlantic Railroad, which extends from a point at which deliveries can be made to the railroad owned and operated by the Woodward Iron Co. to the Mulga property, is also a consideration in the purchase. The ore holdings taken over consist of a red-ore deposit at Songo, Ala., which is in the same field as the red-ore deposit of the Woodward Iron Co., and is accessible to the transportation facilities of this last-named concern. In addition to this, there is the brown-ore property at Tecumseh, Ala., which was formerly owned by the Tecumseh Iron Co. and is considered a very valuable property. Reference here is made only to the ore properties that have been developed, while the transaction carries with it a large acreage of both coal and ore lands that are still undeveloped. The coal properties acquired by the Woodward Iron Co. that are not so accessible as the Mulga property mentioned above is the "Shore Creek" operations on the Pratt seam, where two openings are being worked; the operations at Blossburg, Ala., on the "Nickel-plate" seam, consisting of two openings, one of which has not been worked for some months. At Short Creek 60 "Beehive" ovens have just been completed, and a battery of 100 ovens is acquired with the Blossburg property. At the furnace plant at Vanderbilt, Ala., 51 ovens are located, making a total of 211 ovens available for operation. The Vanderbilt furnace plant consists of one 125-ton-capacity furnace, or the furnace originally purchased by the Birmingham Coal & Iron Co. from the Tutwiler interests, and one 225-ton-capacity furnace built during the year of 1909. The plant has all of the appurtenances necessary for the operation of both furnaces, and, in fact, both furnaces were operated at one time during this year. So far no announcement has been made as to the proposed operations of the Woodward Iron Co., but it is generally believed that, with the increased holdings of raw material and the large facilities to make possible delivery at the furnace plants at a minimum cost, both the Woodward plant and the Vanderbilt plant will be operated to capacity on foundry and basic iron. At this time two

of the three furnaces available at Woodward are in operation, and at Vanderbilt the larger of the two stacks is in blast. A total of some 40,000 acres of coking-coal land and about 2500 acres of ore land are involved in the transaction, which, taken with the original Woodward property, would allow a monthly production of 25,000 to 30,000 tons of pig-iron for an indefinite period. As the operations of the Woodward Iron Co. have been in the past more steady than probably the operations of any other large corporation in this district, the merger of the two properties is generally looked upon with favor by the best authorities. It is generally conceded that, following the plan long since adopted, improvement and extension to the property just acquired will be made from time to time, thereby giving employment to a greater number of men and at the same time taking care of a very significant portion of the products at local steel and foundry plants. The Woodward Iron Co. has for many years been one of the most progressive in the Birmingham district, and has long since established the reputation of producing pig-iron at the lowest cost of any Southern producer. The operations of the Woodward Company are conducted by A. H. Woodward as vice-president and general manager; R. H. Bannister, secretary and sales manager, and M. W. Bush, general superintendent.

NO MONOPOLY INTENDED.

Water-Power Developments in Georgia by Foreign Capital.

[Special Cor. Manufacturers Record.]
Atlanta, Ga., November 1.

Referring to intimations from some sources that organization of his company may mean monopolizing water-powers of Georgia, J. J. Spalding of board of directors of Georgia Railway & Power Co. emphatically denies any such monopoly is either intended or possible with properties acquired. He states his company is a strictly commercial proposition, with plan providing control of three important watersheds, so that users of electricity will be ensured permanent supply when water-powers are developed.

Refuting any claim to control of all Georgia powers, Mr. Spalding names various corporations now distributing electricity in State and planning further developments, and to the fact that every Georgia public utility corporation is subject to Georgia Railroad Commission, which critically examines plans of such enterprises, regulates rates and controls issues of stock and bonds.

On November 7 the Railroad Commission will hear the Georgia Railway & Power Co.'s application for bond issue, and then will be in possession of all data, enabling members to determine equitable features of proposed capitalization. Various properties acquired will be developed promptly, so that all demands for light and power may be supplied. Present construction will progress, and engineers will plan additional construction of extensive character.

Capital for company will be supplied mainly by English investors through Canadian bankers, Charles Magee of Toronto and Elliot G. Stephenson of Detroit being their representatives. Mr. Stephenson is said to control many millions of dollars for investment. Important interurban railways will be part of the plan.

The Appalachian Power Co., Louis B. Magid of Atlanta, president, is changing name to Appalachian Electric Power Co.,

and now has engineers investigating five properties in North Georgia to determine on plans for developments. The company will furnish electricity to Toccoa, Ga., and Walhalla, Seneca and Westminster, S. C. Has franchise for Toccoa.

Planning to modernize its highways so they will equal those of any other Georgia county, Dekalb county will vote December 7 on issuing \$550,000 bonds authorized by the State Legislature. Decatur is the county seat. Dekalb County Good Roads Association will urge affirmative vote.

The Appalachian Apple Orchard is the title of the corporation for which Louis B. Magid of Atlanta asks charter, with \$250,000 stock and privilege of increasing to \$5,000,000. The company plans developing 1100 acres in Rabun county and 5000 acres in Habersham county. It is proposed to grow winesaps, pippins, York imperials, and is now preparing to plant 1000 acres. Expert examination and experience leads Mr. Magid to believe that that section will finally become known as the home of naturally-grown apples. A well-known horticultural expert will soon visit the property for examination. Georgia now has 400,000 apple trees bearing.

Another Big Electric Development.

[Special to Manufacturers Record.]

Macon, Ga., November 4.

The Georgia Light, Power & Railways, financed by A. B. Leach & Co., 149 Broadway, New York, has bought the controlling interest, in fact practically all of the common stock of the Macon Railway & Light Co., the Central Georgia Power Co., and will own the stock of the new gas company, for which they asked the city of Macon for a franchise last Tuesday night. This company will also build a transmission line for the power company from its present terminal in Griffin into Atlanta. This work is now under way. The deal practically amounts to a holding company taking over the controlling interest of all these properties financed by A. B. Leach & Co.

Big Enterprises Rumored.

[Special to Manufacturers Record.]

Tuscaloosa, Ala., November 3.

No new developments have been announced in regard to the big industry reported to be started here, but events of the last few days have unquestionably confirmed the rumors that were published several days ago. It is reported that the Central Foundry Co., the parent company of the Central Iron & Coal Co., operators of the furnace and other industries at Holt, has set aside an appropriation of \$1,000,000 for immediate developments in the vicinity of its present plant. It is believed by some that the Merger interests back of the Southern Iron & Steel Co., the Alabama Consolidated and others will erect a plant at this point.

A franchise sought by interests supposed to be affiliated with the new industry for an electric car line would indicate that the new plant will be located about five miles from Tuscaloosa, and about a mile from Holt, and will cover a large tract of land. Such information as has been secured by the public has leaked out from unofficial sources, but circumstances leave no doubt as to the location of the new industry. The announcement of the new industry following upon the construction of the Tuscaloosa Mineral Railroad, the erection of the Kaul Lumber Co.'s gigantic plant and railroad here and other industrial activities, has stirred the district to great activity.

DEVELOPING IRON ORE.

Plans of the Coosa Valley Company in Alabama.

[Special Cor. Manufacturers Record.]

Coal City, Ala., November 4.

The Coosa Valley Company, which was chartered recently, as reported in the MANUFACTURERS RECORD, owns and will develop about 2300 acres of mineral land located several miles from Coal City. Its incorporators are Dr. E. J. Spratling, Messrs. W. W. Reid and R. P. Jones of Atlanta, D. B. Hamilton, Jr., Harper Hamilton and Thomas Berry of Rome, Ga. It is proposed to develop the property at once. H. A. Turner of Birmingham has been engaged as engineer and has already made a thorough investigation. Plans will be formulated to install modern equipment for mining and washing iron ore. The property is near the Seaboard Air Line Railway, and, to facilitate transportation and secure competitive freight rates, a four-and-one-half-mile spur track will be constructed to connect with the Southern Railway. As the navigable portion of the Coosa River forms a portion of the boundary of the land, it is planned to place barges on this stream to transport minerals to Gadsden and furnaces in the Birmingham district. After the completion of several locks along the river by the United States Government, the river will become navigable from Rome, Ga., to Mobile, Ala. The minerals on the land are iron ore, limestone and shale for Portland cement and shale for brick, and fine beds of coal. There is also a large amount of hardwood and other timber. The only development that will have immediate attention will be the iron ore.

The tract in which lies most of the iron ore comprises 880 acres on Mitchell Mountain. On the eastern and northern slopes of the mountain the prospector, D. B. Hamilton, Jr., and Mr. Turner, the engineer, have had test pits cut along the face from a level with the surrounding country to a height of 150 feet and at intervals for two and a half miles. From the outcroppings in and near these pits, and all over the face of the mountain, it would seem that there would be no question as to the great quantity of brown ore in this one body. The pits at the crest of the mountain seemed to be filled with ore the same as the ones directly under it further down the slope.

This property is near an excellent water supply. At the foot of Mitchell Mountain the Coosa River flows, and should the promoters decide to use hydraulic equipment in connection with the washer this supply can be utilized at a minimum cost. In an interview for the MANUFACTURERS RECORD Mr. H. A. Turner, mining engineer of Birmingham, had the following to say regarding the Coosa Valley Company's property:

"As the Coosa Valley property had never been prospected or investigated before I was very agreeably surprised during my first visit there to find such an extensive body of brown ore of the grade afterwards determined by actual analysis to be ore running from 53 to 57 per cent. in metallic iron. An effort on my part was made to select samples to show an average of the quality. I feel quite sure that this ore, in carloads after development has been made, will run over 55 per cent. in metallic iron. There is always a strong demand for brown ore of this quality from the furnaces at Gadsden and in the Birmingham district.

"The property is within easy reach of

the Seaboard Air Line and the Southern railroads. The orebed can be opened at a point where the ore may be run by gravity from the tippie and washer to barges on the Coosa River. This may be towed either to Gadsden or Riverside, on the Southern Railway.

"Prospecting done on the property to this time shows a face of between 35 to 40 feet of ore extending along the eastern slope of the mountain, which runs through the property in question a distance of three miles.

"The property also carries ample timber for all the mining purposes and from which lumber may be had for the erection of all the buildings, houses, etc., required in the operation of the property.

"The 808 acres comprising the brown-ore tract are so located as to make it attractive to labor. The land is fertile, and the location is a healthful one. An efficient organization necessary to the success in all operations of this character can be easily secured and maintained.

"The body of the ore lies inside of the mountain in a position for open mining, insuring easy accessibility for open work. This is the most cheaply-operated system possible. As a matter of fact, I do not now recall another brown-ore property in this section where all the conditions for cheap mining are so advantageous. Below is an analysis furnished by the chemist, J. C. Long, of Birmingham:

Metallic iron.....	57.65 per cent.
Silica.....	5.22 per cent.
Alumina.....	2.13 per cent.
Phosphorus.....	0.91 per cent.
Manganese.....	0.58 per cent.

"This analysis was taken from sample of brown ore marked 'average sample.'"

ROY G. BOOKER.

BIG RECLAMATION OPERATIONS.

\$250,000 Land Purchase for Scientific Demonstration Work.

[Special Dispatch to Manufacturers Record.]

New Orleans, La., November 7.

The New Orleans Lake Shore Land Co., of which Frank B. Hayne is president, has sold to John B. King, representing New York and Western interests, 640 acres of little woods tract of reclaimed land for about a quarter of a million dollars. This tract fronts on Lake Pontchartrain, is in the city limits, and the acreage sold is within eight miles of the city's center. The primary company is composed entirely of local capitalists, and the reclamation of its 7500-acre tract has been done without outside financing. The new purchasers propose to conduct company farming and orcharding, with the view of demonstrating the wide diversity of crops the reclaimed wet prairie lands of Louisiana will produce during the growing season of 11 months, and also to demonstrate that three or four crops can be grown on the same ground yearly and at a profit.

The highest scale of the farm laboratory, latest and most scientific methods of seed and soil selection, eliminating the element of chance in culture and waste in results, will be practiced. The psychology of the market and taste of the ultimate consumers will be studied and made effective to the end that the highest results may be attained.

Messrs. McCormick Bros. of New York and Salt Lake City and associates, heretofore connected with vast irrigation works of the arid West, notably the project at Twin Falls, Idaho, are the parties behind this undertaking. They are understood to be interested in a large tract of raw marsh land in this section, the ultimate reclamation of which will follow closely upon this demonstration.

ALBERT PHENIS.

BIG DEAL IN COAL LANDS.

Thousands of Acres in Eastern Kentucky Bought by Pennsylvania Operators.

Recent transactions in coal and timber lands lying in the counties of Magoffin, Knott and Perry, in Eastern Kentucky, have resulted in about 175,000 acres of this land being purchased by S. H. Caufield, Chas. S. Ling, B. F. Price, A. P. Stephens and George W. Reese, all of Johnstown, Pa.; J. J. Dougherty of Connersville, and T. T. Forman of Lexington, Ky., acting together. It is not expected that this property will be developed at once, but that it will be held for possible future development or for advance in price. The companies in which these gentlemen are associated in owning these tracts of land are the Knott County Coal & Lumber Co., capitalized at \$250,000, and owning land located in Knott county, Kentucky; the Kentucky Land & Improvement Co., owning lands in Magoffin county, and the Cambria Coal & Lumber Co., capitalized at \$500,000, and owning 67,000 acres in Perry county. This land has been carefully examined by representatives of these capitalists with the view to determining the value of the coal and timber, but they have not opened any mines as yet. Mr. B. F. Price of Johnstown, the center of the Connellsville coking coal field, one of the buyers of these properties, in a letter to the MANUFACTURERS RECORD, referring to these purchases, says:

"We are entirely too far away from the railroad at present moment to begin arrangements of any developments on a large scale. However, the properties are bought for the purpose of operating them in due time, inasmuch as we do not care to carry the large acreage that we own longer than it is really necessary before development. We have not been doing anything other than securing the lands and the titles thereto and incorporating them thus far. There are other interests, when it would come to the matter of development, that would likely have the say to that, and it would be premature for me to attempt even to suggest what may be necessary to properly develop the properties in question, inasmuch as they are virgin timber forests and only have coal veins opened up on them, but no mining is done at all.

"We believe that Eastern Kentucky is the coming coal field. In other words, that it is the coal field of tomorrow, inasmuch as it possesses the heaviest deposits of by-product coal, which shows by analysis as possessing the highest qualities known as by-product coking coal, and has been so analyzed. The recent purchase, in which I have been assisting, comprises about 43,000 acres."

ETHYL ALCOHOL FROM PINE.

\$500,000 Plant to Utilize Sawdust and Pine Refuse.

[Special Dispatch to Manufacturers Record.]

New Orleans, La., November 7.

It is reported that the Standard Alcohol Co., Ewing & Thompson, Chicago representatives, has closed contracts with the Gulf Lumber Co. of Fullerton, La., M. L. Fleishel, general manager, by which ethyl alcohol will be made from pine refuse by the Classen process, the plant to cost about \$500,000. The Standard Company also has a plant at Georgetown, S. C., the only other plant of the kind in the United States being at Hadlock, Wash., which is owned by the Classen Chemical Co. This is the process described by George U. Borde of New Orleans in the MANUFACTURERS RECORD more than a year ago for the manufacture of ethyl alcohol from sawdust and pine refuse, and which attracted attention all over the country to

such an extent that Mr. Borde was flooded with inquiries about it.

ALBERT PHENIS.

To Make 5000 Gallons of Ethyl Alcohol Daily.

Fullerton, La., Nov. 7.

[Special Dispatch to Manufacturers Record.] The Standard Alcohol Co. will build fireproof plant here in connection with our operations, costing \$500,000 to \$750,000, and will make 5000 gallons ethyl alcohol per day. Construction has already begun.

M. L. FLEISHEL,

Gulf Lumber Co.

TO PLANT A BIG ORCHARD.

Apple Growing on a Commercial Scale in Georgia.

[Special Cor. Manufacturers Record.]

Atlanta, Ga., November 1.

Recently the MANUFACTURERS RECORD referred to Louis B. Magid of Atlanta and associates as applying for a charter for a company that plans to engage extensively in apple growing in Georgia. This company will be known as the Appalachian Apple Orchard, and will have initial capital stock of \$250,000, with privilege of increasing to \$5,000,000. Its apple orchards will be in Habersham and Rabun counties, where about 6100 acres of land have been secured, 1100 acres being in Rabun and 5000 in Habersham. Land in this section has already been utilized for apple growing, and Mr. Magid has cultivated fine specimens on property there he has owned for some years. Experts on apple culture have been consulted, and their opinions, together with Government data and what has been accomplished by farmers, assure the new company that it can establish a profitable industry. The company is now preparing to plant a 1000-acre tract of its land, and will grow, at first, winesaps, York Imperials and pippins. It is the intention of the managers to proceed with the thorough development of the entire property as speedily as is consistent with the best horticultural methods and the demands of the markets. S. W. Cole of Forest Depot, Va., has been engaged as the technical director, and is superintending the development plans.

The apple industry of Georgia has passed the experimental stage, the Georgia apple having been awarded two first prizes and one second prize at the international exhibit at Spokane, in the heart of the Western apple country. The State already has about 50,000 acres planted in commercial apple orchards, and about 400,000 trees in bearing. One Georgia grower, about 14 miles above Blue Ridge, in the Wilcox Valley, has an orchard of about 2000 trees, and expects to gather annually about 15,000 bushels. One tree in this orchard is said to have produced 35 bushels of "Arkansas Blacks" when it was 16 years old, and that the tree's output sold at \$61.25. H. C. CALDWELL.

Pennsylvanians Purchase 30,000 Acres Florida Land.

An important land deal is the recent purchase by Dupont Railway & Land Co. of about 30,000 acres early-potato land in St. John and Volusia counties, near Ormond, Fla., at a reported cost of \$350,000 to \$500,000. The Tippecanoe Securities Co. of Scranton, Pa., is interested, and Mr. H. E. Black, president of the latter company, advises the MANUFACTURERS RECORD that present developments will include lumber and by-products—turpentine, rosin, etc. Transportation facilities are convenient, two railroads and one water route to New York being available. The property has been under development by former owner, U. J. White, and has turpentine and saw-

mills, brickkilns, etc., already established. There are also tramroads and equipment for irrigation and drainage.

MATTAMUSKEET DRAINAGE.

Status of the Work of the Carolina Reclamation Project.

John P. Kerr, secretary Board of Commissioners Mattamuskeet Drainage District in Hyde county, North Carolina, writes from Middletown to the MANUFACTURERS RECORD concerning that drainage district:

"The organization of this district was perfected, as provided by the State drainage law, in November, 1910, and J. S. Mann, Middletown, N. C.; T. H. B. Gibbs, Fairfield, N. C., and John P. Kerr, Asheville, N. C., were named as the Board of Commissioners to prosecute the work of development. J. S. Mann was chosen chairman; T. H. B. Gibbs, vice-chairman, and John P. Kerr, secretary.

"On May 16, 1911, bids were opened at Swan Quarter, N. C., on proposals for digging approximately 83 miles of canals and ditches in the district, and for the erection of a pumping plant and buildings. The pumping plant was to consist of sufficient centrifugal pumps directly connected to steam engines to discharge 1800 cubic feet of water per second against a head of eight feet. The total yardage in the canals was estimated to be about 2,700,000 yards.

"The cubic yards of excavation in the outfall canal was estimated to be 703,810.

"The cubic yards of excavation in the sump, or collecting basin, was estimated to be 130,320.

"The cubic yards of excavation in the collecting canals six feet or over on the bottom was estimated to be 1,724,020.

"The cubic yards of excavation in the field ditches less than six feet on the bottom was estimated to be 90,500.

"The cubic yards of excavation in the boundary ditches was estimated to be 45,000.

"The contract for doing the excavation work of the district was awarded to the Central Dredging Co. of Cleveland, O., and Schuylerville, N. Y., at the price of 6.40 cents per cubic yard. This included all the dredging except the field ditches (90,500 yards) and the boundary ditches (45,000 yards). The contract for this work, aggregating 135,000 cubic yards, has not yet been let.

"The contract for erecting the pumping plant has not yet been awarded, but the bids received on May 16 are still being considered by the Board of Commissioners, and the work may yet be let to one of the bidders.

"The Board of Drainage Commissioners advertised for bids on \$500,000 of bonds to be opened at Swan Quarter, N. C., on June 21, 1910, but when this advertisement appeared a suit was instituted against the board seeking to restrain it from issuing bonds in excess of \$400,000. The Superior Court denied this injunction, but an appeal was taken by the plaintiffs to the Supreme Court, and thus the work of the district was held up from about June 21 to October 11, the Supreme Court on the latter date handing down a decision affirming the decision of the lower court and removing all obstacles in the way of issuing the \$500,000 bonds. The Board of Commissioners expect to be able to sell these bonds in a short time, when the work of actual improvement will begin and be prosecuted with all expedition possible. The contracts require that all the work of the district shall be completed within two years from the date on which the work is begun.

"The total area of the drainage district is approximately 100,000 acres. Of this amount, 48,830 acres lie in the lake bed,

and the remainder is land surrounding the lake. About 30,000 acres of the outside land is now under cultivation, and is regarded as productive as any lands in the State of North Carolina. The remaining 20,000 acres of outside land is extremely fertile, and, when drained, will not be surpassed in fertility anywhere. During the dry weather that has prevailed in this section during the past summer the water in Lake Mattamuskeet has evaporated to such an extent that it has been estimated that from one-half to two-thirds of the lake bed has been dry, and at the present time not more than half of the lake bed has any water on it. The deepest water now to be found in the lake will not exceed two feet, and the drought of the past summer has effectually dispelled any thought of there being any springs of water in the lake or of any underground connections between the lake and Alligator River on the north or with Pamlico Sound on the south.

"The bond issue for doing the work of the district will be about \$500,000. Of this amount, the lands lying in the lake bed will be responsible for the payment of three-fourths, and the lands outside of the lake bed will be responsible for one-fourth. The first instalment of principal will be due at the end of the third year from the date of the issue of the bonds, and one-tenth of the principal will be due each year thereafter till paid. The bonds will bear 6 per cent. interest, payable semi-annually, and the interest for the first two years will be paid out of the money realized from the sale of bonds. These bonds are exempt from county and municipal taxation in North Carolina."

NEW GOLD-MINING PLANT.

By C. A. WESTWORTH, C.E., Philadelphia.

The Portis Mining Co. of Philadelphia, Pa., has recently installed an entirely new type of plant at the Portis mine, Franklin county, North Carolina. The ore body consists of a saprolite placer 75 feet deep and covering over 500 acres of ground. The gold values average 50 cents per cubic yard in the saprolite, and in addition quartz stringers have been uncovered within the past two weeks assaying \$280,000 to the ton. The stringers, while small and limited in extent, help to make the average amount of gold recovered much higher than obtained from the saprolite alone.

The plant is designed to handle the entire material excavated, and recovers 95 per cent. of the gold which exists in fine particles disseminated throughout the saprolite. The central feature of the plant is a Lidgerwood cableway of 800 feet span, which operates a 1½ cubic yard Knight scraper bucket. The cableway is supported by two steel towers. The head tower is 70 feet high and on a pivot, while the tail tower, which is 55 feet high, moves about the pivot tower on a track of 800 feet radius. The operation of the Knight bucket is entirely automatic. It can be lowered to the ground at any point under the main cable, and fills itself by being dragged along the surface, the manganese steel teeth serving to break up the hard earth, roots and rocks which may be encountered. As soon as the bucket is filled it is hoisted to the main cable, along which it traverses at 1200 feet per minute to the pivot tower, where it is automatically dumped in a chute and returns for another load. This machine will excavate 1000 cubic yards per day, and requires only an engineer and signalman to operate it.

The excavated material upon being dumped in the chute passes between powerful crushing rolls which will break up 100 cubic yards of mixed earth and rocks per hour. As the crushed saprolite and

quartz leaves the rolls they are intercepted by a 10-inch stream of water discharged from a nozzle under pressure, and the mixed earth and water runs down a sluice to the disintegrating and separating machines. These machines are the secret of the successful recovery of the fine gold, which has been found impossible in the Southern placers in the past on account of the clay in the saprolite. They break up the clay by powerful rotating plows so operated that the entire material except the rock is carried into suspension in the water in a finely-divided state.

The discharge from the disintegrators is screened to remove all particles of rock over one-eighth inch in diameter, and the water with the suspended gold and earth passes over quicksilver riffles of special design, which recovers upward of 95 per cent. of the fine gold. The nuggets and coarse gold is reclaimed in the disintegrators. The rock that is screened out at the discharge end of the disintegrators is led into Huntington mills and ground to pass a one-sixteenth-inch mesh screen, and is then passed over quicksilver riffles.

Not a thing is lost in this plant, whether earth or rock; it is all finally ground up so as to release the finest particles of gold, and has to pass over a large area of quicksilver, which reclaims this gold before passing to the tailing dump. Special devices have been installed for recovering the fine float gold and finely-divided quicksilver, which is usually lost in the tailings.

Only eight men are required to operate the entire plant, and the entire cost of operation is only six cents per cubic yard. The company is planning to install another plant of double the capacity of the present one.

The operation of the mine is under the direction of O. T. Switzer, an experienced miner.

Several prominent capitalists are prospecting in the vicinity of the Portis mine, and it is safe to predict that the gold deposits in the South will soon be given the attention they deserve.

Lake Toxaway Improvements.

Board of Trade,

Asheville, N. C., November 4.

Editor Manufacturers Record:

Improvements involving the expenditure of about \$200,000 are announced by Mr. E. H. Jennings for Lake Toxaway, 60 miles from Asheville and in the heart of the beautiful "sapphire country." Mr. Jennings is president of the Colonial Trust Co. of Pittsburgh, and has recently become the sole owner of the Lake Toxaway Hotel and the Toxaway estate, comprising several thousand acres. Contracts for a part of the improvements have already been let. One is the building of a 24-foot roadway about 20 miles in length around the lake. The road is to be made of sand-clay after the most improved modern methods. The engineers will complete their work within the next week, and the active construction of this road will begin.

Another improvement will be the installation of a hydro-electric plant for lighting the hotel and grounds. The plant installed will develop 250 horse-power. Mr. Jennings will have a nine-hole golf course. On the links will be erected a 20-room clubhouse of attractive architectural design.

The Inn itself is to be remodeled. The entire structure will be repainted and 40 bathrooms will be added. The contract for this work has been let to E. F. Gillespie of Brevard, N. C., for \$2000. An improved baking plant is to be installed, electric cooking apparatus to be put in, kitchen and pantries to be laid with tile, and all equipment and work to be the most modern.

Along the road which is to encircle the lake will be built a number of cottages for those who prefer their own private homes to staying at the hotel.

N. BUCKNER, Secretary.

POTASH DEPOSITS IN MARYLAND?

Report that Source of Supply Has Been Found in This State.

J. H. Connor of Pittsburgh claims that extensive deposits of potash have been discovered near Hollofield, Howard county, Maryland. Mr. Connor is organizing the Farmers' Fertilizer Co. of America, which he says will have a capital stock of \$10,000,000, to develop these deposits and to establish fertilizer plants at various points in the country. In a talk with a representative of the MANUFACTURERS RECORD Mr. Connor stated:

"Machinery has already been purchased for the initial plant to be established in the potash field near Hollofield, and this will be rapidly pushed to completion. A fertilizer plant will also be established shortly in Baltimore, and from time to time other such plants will be added in different localities throughout the country. I have investigated every locality in this country said to contain potash, and know that the one at Hollofield is the most extensive so far discovered. Through a special process, patented and owned by me, the potash can be released in soluble form in about 20 minutes. This process has been proven feasible, and careful investigations and experiments have been made to ascertain any possible failures, but none have been detected, so that I am confident it fulfils every requirement for releasing the potash content in a soluble form. In fact, investigations of farm lands around Hollofield have shown that some of these deposits exist with the potash already in a soluble state.

"I also own large phosphate lands both in Florida and Tennessee, and all of these will be operated under the Farmers' Fertilizer Co. of America, which will shortly be incorporated with a capital stock of \$10,000,000, in which will be interested capitalists of Baltimore, Pittsburgh, New York and other cities."

The deposits at Hollofield referred to by Mr. Connor were examined in detail by the United States Geological Survey in the course of its regular investigation work, and the results of this work were reported in Bulletin No. 420, entitled "The Economic Geology of the Feldspar Deposits of the United States." In this bulletin it is pointed out that the feldspar in this section contains a comparatively high percentage of potash, but that it has not been of any value, due to the fact that no process had as yet been successfully worked out whereby the potash could be released in a soluble form.

A great many efforts have been devoted to working out a process that would reclaim potash from feldspar in a form whereby it could be used, but none of them have yet proven sufficiently low in cost to allow them to compete with the German potash supply. Just recently there was reported through the columns of the MANUFACTURERS RECORD the organization of the Spar Chemical Co. of Baltimore, which claimed that it had worked out a process for releasing the potash contents from feldspar in a soluble state, and this company is at present erecting a plant in Baltimore to operate under its methods.

All of these announcements emphasize the great attention that is being devoted by chemists, fertilizer manufacturers, the United States Government and others to the discovery of a supply of potash that will meet the needs of the fertilizer industry of the country.

It is interesting to note that Secretary Wilson of the Department of Agriculture has recently announced that he is sure his department has discovered a source of potash supply in the West that will meet every need of the country, but that as this information is in the nature of a special report to the President he cannot get disclose the location of the deposit.

ACTIVE AT LAKE CHARLES.

Municipal and Individual Improvements Under Way.

F. N. Fuller, first vice-president of the Hi-Mount Land Co. of Lake Charles, La., writes to the MANUFACTURERS RECORD:

"In reference to the city of Lake Charles, will say that it has 'broken dirt' this week on a new \$250,000 sewer system and is preparing to sell \$100,000 worth of street-pavement bonds, which means \$300,000 for street paving, as the property-owners will pay two-thirds of the paving expense. We have a new \$200,000 court building under construction, a new \$75,000 city hall, a \$125,000 postoffice building nearing completion, are preparing to build \$150,000 of new school buildings. Three new fire stations are under construction, and there is new equipment for them. The Catholic church is preparing to build a new church, convent and a school for boys which will cost approximately \$300,000. Two of our hotels are doubling their capacity. S. H. Kress & Son 'broke dirt' today for a new brick building. The Houston Brewing Association is drawing plans for a new brick building. The Muller Company is preparing to build the best department store in the State outside of New Orleans, and work on the completion of the Intercoastal Canal, connecting Lake Charles by an inland waterway with Sabine Pass and New Orleans, will soon begin. There will be an application filed with the City Council for a gas franchise at its next meeting. We expect Lake Charles to increase in population at least 5000 in the coming year. Lake Charles has a population of about 20,000."

One Virginia County.

Indicative of the agricultural resources of the Delaware-Maryland-Virginia peninsula, concerning which the freight department of the Pennsylvania Railroad has issued a booklet, are figures just published by the Commissioner of the Department of Agriculture of Virginia, showing that the value of the trucking crop for this year in Accomac county alone will amount to more than \$5,000,000.

Accomac is one of the two counties of Virginia situated on the Delaware-Maryland-Virginia peninsula. It furnishes 5 per cent. of the sweet potato crop of the United States, planting some 12,000 acres. One farmer this year has 5000 barrels of sweet potatoes to his credit.

One potato grower in particular on the Eastern Shore of Virginia has come to realize the value of high prices over large crops. Last year he had 25,000 barrels of white potatoes, which he sold at an average of a little more than \$1 per barrel. This year he has only 10,000 barrels, for which he will realize \$5 per barrel. His crop this year is worth \$50,000. Last year, with two and one-half times the yield, it brought about \$40,000. In addition, he has to hire fewer men to dig and handle the potatoes, and has to buy fewer barrels.

The fall-trade edition of the *Enquirer-Sun* of Columbus, Ga., was a 54-page invitation to the people of the world to make their home in or near Columbus and an exposition of the reasons for the invitation.

Gov. Mann of Virginia on Sherman Law and Material Welfare.

[Special Correspondence Manufacturers Record.]

Richmond, Va., November 2.

"If it be legal to convict bulls under the Sherman law for conspiracy to advance the price of cotton or other commodities, the bears on the exchanges who conspire to sell cotton or other commodities which they do not possess, with the expectation of a decline in prices or for the purpose of effecting a decline, should be likewise prosecuted," said Governor Wm. Hodges Mann of Virginia to the MANUFACTURERS RECORD in a very striking interview that would have delighted the heart of every man interested in the country's progress.

"Depressing prices to the injury of the producer," he said, "may be just as wrong as raising prices to consumers. Indeed, depressing the price of raw material below the cost of production may result in such reduction in crop planted as to cause serious consequences."

"One very serious trouble with the cotton situation, as it appears to me, and one which manufacturers and business people are beginning to see, is that, in view of the increased cost of producing cotton, the world needs to be educated along the line of paying more for its cotton goods."

"The last Government estimate on this crop, as I am informed, based on the quantity ginned and the condition of the crop at the time of the estimate, puts the crop at 13,800,000 bales, while the trade estimate is 14,500,000 bales, which is 2,400,000 bales in excess of the crop of 1910. And yet, with this excess of 2,400,000 bales, the crop of 1911 at present prices will sell in the aggregate for \$300,000,000 less than the smaller crop of 1910, and the credit balance of the United States will be \$210,000,000 less than last year."

"The information obtained by the Secretary of State at the request of Governor Colquitt puts the demand for American cotton for the year ending September 1, 1912, foreign and domestic, at 13,739,916, which, even at the trade estimate of the crop for this year, will only leave a small surplus, which it is fair to assume will be freely used up under the stimulus of the low price of the crop to this date. As set out in the address of the Governors at the New Orleans conference, these statements, which cannot be successfully disputed, will show that there must either be a gross misunderstanding of the facts or some powerful combination of manipulation which has taken advantage of hasty selling and early marketing to create a false impression which interferes, for the time, with the law of supply and demand, and which cannot be maintained if the cotton planters shall decline to market their crops until a reasonable price, certainly at an advance over the cost of production, can be obtained."

"And this brings up another thought that was advanced at the recent conference of Governors at New Orleans. The Southern farmer is getting in better position every year to hold his crop. I think Governor Sanders of Louisiana said that 80 per cent. of the farmers of his State could do so; that the boll-weevil had been a blessing in disguise to the people of Louisiana, as the planters were driven to diversified farming, which has practically made cotton their surplus crop. When

the farmers of other Southern States follow this example the cotton situation will be solved, as they can then market their product as the manufacturers call for it, instead of disposing of a crop, which requires a year for its production, in 60 or 90 days."

"My advice to the planters of the South is, inasmuch as cotton is now below the cost of production, for such of them as can do so to buy the number of bales they expect to make next year and put them away, and not to plant any cotton in 1912. This action would secure this crop at a small cost, withdraw enough cotton from the market to increase its present price, and give them the use of their land next year for other crops, which would be a step in the direction of producing on the farm everything necessary to carry on its operations, and when this is done the planter will be independent."

"While Virginia can hardly be classed with the cotton-raising States, as it produces annually only about 16,000 bales, it has a vital interest in everything which concerns the industrial life of the South, and, indeed, of the whole country, and will always do what it can to advance the best interest of the country, and therefore it was represented at New Orleans. Naturally when there is trouble with any of the great interests we look for an underlying cause, and it seems to me that one of the troubles of the business world just now grows out of the uncertainties and the enforcement of the Sherman act."

"The President can hardly be criticised for the enforcement of the laws of the United States; indeed, under the Constitution, it is his duty to do so, and all good citizens approve his desire and purpose to suppress unlawful trusts, combinations and monopolies, but a better plan might be found than resort to the courts. Now that the Supreme Court of the United States has construed the Sherman act in two cases, it seems to me that there are only two questions to be solved in reference to all trusts and corporations—first, whether, under their organization, power and operation, they are antagonistic to the Sherman act; second, if in violation of the act, how can they be reorganized as to be shorn of their objectionable powers and practices and be made beneficent agencies for the advancement of the best interests of the country."

"Suits are now pending before the courts of the United States against some of these trusts and combinations for their dissolution, which, in the nature of the case, will go to the Supreme Court and take considerable time for settlement. These trusts and combinations against which suits are now pending, and others against which suits may be brought by the Government, are so connected with the business interests of the people of the country that there is a feeling of unrest and uncertainty which will prevent the extension of work and operations already begun and the undertaking of new enterprises of almost every kind until the questions connected with the powers and duties of the great corporations of the United States are clearly and finally settled and disposed of. In view of this situation, disastrous to all prosperity, to farmers and mechanics as well as to business men generally, with its unrest and uncertainty in the business world which affects

every interest, causing stagnation in the demand for products of the soil, affecting the great agricultural producing interests of the whole country, it seems to me that the country would heartily approve of arbitration for the settlement of all matters touching the legality of trusts, corporations and combinations under the Sherman act, to which I believe these large industrial combinations would be willing to submit if notified of the purpose of the Government to proceed against them in the courts."

"If this principle of arbitration were followed, I believe there would be a speedy settlement of all matters involved, confidence be restored, business resume its normal condition, our great natural resources

be employed to a greater extent, and the inherently sound conditions which exist in our country today be made to promote the progress and prosperity of the people of all sections. Our crops are large, all of the underlying conditions of the country are sound, and we would have active business and great prosperity if the present state of uncertainty could be terminated. But if it is not deemed wise to resort to arbitration, it would certainly be just to the business interests of the country for the law department of the Government to give its interpretation of the Sherman act so that corporations doing business affected by it might conform their practice to the Government's interpretation, or at least be put upon notice."

Through the Heart of a Great Coal Field.

[Special Correspondence Manufacturers Record.]

Huntington, W. Va., November 4.

Among the big industrial developments now going forward in the country there is no single one, perhaps, of greater general importance than the ten-million-dollar enterprise of the Consolidation Coal Co. in Pike, Floyd, Knott and Letcher counties, Kentucky. And this not only because of the gigantic proportions of the enterprise itself, but as well because of the tremendous influence it is likely to exert over other developments. The Consolidation Company, as repeatedly stated in the MANUFACTURERS RECORD, has acquired in the four counties named 100,000 acres of coal land, lying in a solid block and running from near the Big Sandy line of the Chesapeake & Ohio at Shelby some 30 or 35 miles in a southerly direction to a point not far from the waters of the Kentucky River, where the new town of Jenkins is being built.

This is said by experts to be one of the finest bodies of coal land to be found anywhere in the country. The coal, which lies in seams of from five to seven feet in thickness generally, increasing to nine feet in places, is peculiarly adapted to the making of coke, both on account of the high quality of the coke itself and the richness of the by-products. The coke has been found by actual test to be of higher quality for ironmaking than the famous cokes of the Connellsville field, because of being even lower in sulphur. It is claimed for it that this freedom from sulphur gives it a value of from 40 to 50 cents more per ton than Connellsville coke, because of the saving in cost of materials used to compensate the sulphur when they are used. The coal is also declared to be of greater value when coked in by-product ovens, because of the larger quantity of gas and other by-products secured in the manufacture of coke.

These things, as stated above, have been demonstrated by actual test, to which is added this further assurance: When the Consolidation Coal Co. passed by so many other coal fields, thrown at its head, so to speak, by owners anxious to sell, and drove down its stakes and began to spend its money on this tract, it was because of some superiority, for the men in control of the practical end of that great corporation are peers of the best in the business, no matter where else they may be found. The Watsons have been raised in the coal business—in all parts of the business, from the mine to the consumer—and their unsurpassed success in its production and disposal proves their right to primacy. They know the coal business "from the ground up," as it were, so that when it is announced that the coal in this new field of their endeavor possesses the vir-

tues claimed for it people are inclined to believe the assertion without waiting for further demonstration.

The Consolidation company is, therefore, at work on the first stages of development of this great body of coal. Hundreds of men are at work building a railroad from the mouth of Shelby, where the Chesapeake & Ohio runs, to Jenkins, to which point the Louisville & Nashville is hurrying up its line from Jackson, a hundred miles away in Breathitt county. The 30 miles being built by the Consolidation will run through its land the long way, and will be turned over to the Baltimore & Ohio for operation. The Baltimore & Ohio, to be sure, has no line extending into this region, but—well, that comes further along in the story. This 30 miles will be completed by February, and for the purpose of having something for it to do as soon as completed, the company has further hundreds of men at work opening up mines and building tipples and erecting a great central power plant, so that it will be ready to begin loading coal as soon as the railroad is ready to receive and move it.

The operating plant will, it is said, be the biggest coal plant in the world, and will furnish the electric haulage and all the other power needed in a number of mines designed for a combined output of 4,000,000 tons a year, or about 16,000 tons for each working day, the average being placed at 250 working days per year. This will take something like two miles of 50-ton cars a day to move—two miles of empty cars running into the field and two miles of loaded cars running out each day to carry the output of one concern may be said to indicate "quite some" activity.

The Baltimore & Ohio Railroad will unquestionably build a line into this coal field, the only open question at this time being as to which one of two routes will be chosen, and whether the extension will be made by the Baltimore & Ohio proper or the Cincinnati, Hamilton & Dayton, which belongs to the Baltimore & Ohio. The Cincinnati, Hamilton & Dayton now runs into Ironton, O., a few miles down the river from the mouth of the Big Sandy, and the Baltimore & Ohio has another line coming in a few miles farther down. There are two ways, either one of which is easy of adoption, and the advocates of each are armed with many cogent reasons for its choice. One is to cross the Ohio River at Ironton and build up the Big Sandy to a connection at Shelby with the road being built by the Consolidation. This would seem the most direct route, and the one, therefore, naturally to be chosen.

The people of this place point out, how-

ever, that what they consider a better route would be to come up to this point on the Ohio side, cross here and build up the Guyandotte River to its headwaters, and then across to the Big Sandy waters, and so to the connection at Shelby. While the managers of the Baltimore & Ohio have probably decided before this which route will be traveled, they have not let the public into the secret, and so the people of Huntington are furnishing reasons and arguments in support of the Huntington-Guyandotte route. And their assertion is quite complete.

In the first place, they claim that the distance to be covered to get to Shelby from the Ohio River is only 12 miles more by the Guyandotte than by the Big Sandy line. Then on the Guyandotte is already the great Island Creek development about Holden, in Logan county, where 3,000,000 tons of coal is being put out annually, all of which is now hauled by the Chesapeake & Ohio, but part of which the Baltimore & Ohio would get if it had a line to it. Other operations in the same section are producing 1,000,000 tons more, of which it would get a part also. Passing on through the section in which these developments lie, the road would strike into an undeveloped tract of 40,000 acres belonging to the Crane interests of Cincinnati, and another tract of 60,000 acres belonging to Kountze Bros., and would go through this in a direct line toward Shelby. From the Kountze Bros.' tract it would pass into a tract of 100,000 acres recently purchased by E. J. Berwind, of the great Berwind-White coal and land concern, which runs from the Norfolk & Western on the east to the Big Sandy branch of the Chesapeake & Ohio on the west. This would furnish about 30 miles more of big coal to be moved. Adjoining the Berwind tract, and a little out of the direct line, so that a short spur would be necessary, lies a block of 30,000 acres recently acquired by the Blackberry company, an organization of the same Boston people who form the Island Creek company and have big operations at Holden. The main line, however, would pass on through the Berwind tract, and that would bring it "smack" up to the Consolidation land.

Now, then, says Huntington, from Holden, where the new road would first strike coal, to Jenkins, the extreme far side of the Consolidation tract, the distance is about 90 miles, and it will be the greatest coal tonnage producing 90 miles in the world when developed. The Guyandotte Valley is threaded by the Chesapeake & Ohio, and there would be some difficulties to be overcome in building another line up that stream, but the same trouble would be encountered in building up the Big Sandy, and probably in greater degree, for the Chesapeake & Ohio runs up one side and the Norfolk & Western on the other. Over the Big Sandy route the Chesapeake & Ohio would have to be paralleled all the way to the point of entrance to the Consolidation tract, while by the Guyandotte route the road would run alone through the Crane 40,000 acres, the Kountze Bros.' 60,000 acres, the Berwind 100,000 acres and the Blackberry 30,000 acres. There is a tremendous amount of timber on these big tracts also, and this would furnish a great deal of tonnage for the road as soon as built.

Huntington points out further that crossing the Ohio here involves the inclusion of Huntington in the territory largely dominated by the Baltimore & Ohio, which now enters it only by way of its Ohio River division. Huntington was the West Virginia city of most rapid growth during the last decade, now stands second only to Wheeling in population, and is expected by its friends to pass that city

before the arrival of the next census period. Being a city of varied industries and many natural advantages, the coming of another line of the Baltimore & Ohio would give it a tremendous impetus, and would do much to make it a place of great importance in the production of tonnage. The reasoning of Huntington sounds good, and I present it upon its merits. The Big Sandy advocates may be able to argue equally as logically. I have not heard their side.

Meantime the Cincinnati, Hamilton & Dayton road is being double-tracked north of Dayton; grades are being lessened by cuts and fills; curves are being eliminated where possible, and many acts and things are being done to indicate that the Baltimore & Ohio is fixing it up for utilization in carrying a great tonnage to the lakes. And where can it be more easily secured than from the immense coal deposits to be found on the various tracts of land mentioned above.

GEO. BYRNE.

Wants to Crystalize Kumquats.

Bay City, Tex., October 30.

Editor Manufacturers Record:

I am very anxious about a new industry, and that is the commercial crystallization of kumquats. This country is ideal for this fruit, and they are the most delicious as well as the hardiest species of the entire citrus family. Knowing that you are at all times willing to be instrumental in promoting the success of the South in an industrial way, I am going to ask that you put me in touch with some firm like Huylers or Jacobs, or some other large confectionery, and if I can find the right man we will immediately send him some of this fruit to make tests with, and if we find they can be marketed to advantage we will endeavor to promote the kumquat in this section.

B. L. AYERS.

Steel or Wood in Car Construction.

Dahlstrom Metallic Door Co.,

Jamestown, N. Y., October 30.

Editor Manufacturers Record:

The writer has read with interest in the last issue of the MANUFACTURERS RECORD the article entitled, "Wooden Cars vs. Steel," and as this gives a largely biased view of the utility of an all-steel car as compared with a wooden car, the writer feels called upon to point out a few plain facts and endeavor to show wherein the article referred to gives a wrong impression. This article was evidently written on the strength of one which appeared in the *Hardwood Record* a short time ago, which naturally gives an account of the wreck at Fort Wayne, Ind., that would be favorable to the hardwood interests.

In the accident named the account states that the dining car, built with steel underframing, but otherwise of wooden construction, came out of the wreck with only one corner knocked off. That statement of itself would tend to show that the car was deflected from the track and only came in collision with a steel car with the one corner that was knocked off, the rest of the car escaping without injury, owing to the fact that it left the track. What would have happened if it had remained between the steel cars can easily be imagined.

In almost all wrecks of wooden cars a great many of the people injured or killed are struck or pierced by splinters from the wood, which are evidently flying in all directions. This would not happen with steel cars, because the steel would not split up and cause such injuries.

It is fully as important to have the cars fireproof nowadays, in spite of the electric light and steam heat, as it ever has been. A case illustrating this point was

the wreck on the Lehigh Valley Railroad some months ago, when an excursion train was derailed and came in contact with some oil tanks standing along the track, flooding the wreck with oil, which caught fire and burned fiercely, the wooden cars, of course, adding fuel to the flame and causing the death of 8 persons out of 11 killed. Furthermore, it is only necessary to refer to any number of fires occurring in buildings owing to defective installation of electric wires. If a fire will occur in a building from this cause, there seems to be just as much danger to wooden cars from similar causes.

As to steel cars being noisier than the wooden cars, the writer knows from personal experience that such is not the case. How many travelers in a Pullman car has not been kept awake practically all night on account of the creaking of an old wooden sleeping car, where all the joints in the wood, from the constant moving of the train, keep up a continual noise. This danger is not so apparent, if not wholly obliterated, in the car of steel construction. If this question was put to a vote, no doubt the majority of experienced travelers would give a statement in favor of the steel cars as against the wooden cars.

Anyone familiar with the steel-car construction will know that insulation against heat or cold are well provided for, both in the hollow wall construction and with a special insulating felt, which is always used. The comparison between a hot tin roof and a modern constructed steel car is absurd. A tin roof is, of course, stationary, and when there is no breeze, nothing to cool it off. A steel car running at a speed of from 30 to 50 miles an hour is naturally cooled to a great extent by the draft created from the speed, which, in addition to the careful insulation, makes them fully as comfortable as any wooden car.

It is also a fact that the all-steel passenger cars were not ordered and put in service until exhaustive tests had been made, in which they were found satisfactory and superior to the wooden-constructed cars. The very fact that the Pennsylvania Railroad has put in service more than 2000 cars speaks well for it, and other large railroad systems are following suit.

It is also a fact that the steel interior finish of a car is more sanitary and of a more pleasing appearance than a wooden car. The steel cars are more easily kept clean, which can easily be verified by asking any of the crew of any given train in the steel cars. The elimination of carved ornaments and deep paneling which are so prominent in the wooden cars and which only form harboring places for dust and germs makes the steel car entirely sanitary. It is also a fact that germs and insects do not thrive on steel as they do on wood.

The all-steel dining cars are much preferred by the porters and conductors to the wooden cars. The porters of the Pullman sleeping cars find them much more convenient and easy to take care of, and we believe that any passenger will prefer the all-steel cars and be more comfortable on account of the added sense of security in case of accident which such a car would give him.

Naturally, the idea of giving up wood for interior finish will die hard, and be fought against by the hardwood interests. But the fact remains that the practical car builders and the officers of the more prominent railroads who have given the matter close study are all in favor of the steel-car construction, so that without a doubt the steel car has come to stay, and to be a factor in more safe and comfortable railroad travel. A. W. ECKBERG.



THE BIBB SEWER PIPE CO.'S PLANT.

The Bibb Sewer Pipe Co.'s New Plant.

One of the important new manufacturing enterprises in Macon, Ga., is the Bibb Sewer Pipe Co., which was recently organized with a capital of \$100,000. The president of the company is W. Jordan Massee; vice-president, O. J. Massee, Jr., with J. P. Stetson, secretary. The accompanying illustration shows the buildings and the down-draft kilns, which embody the latest ideas in their construction for the burning of clay in the manufacture of its various products. The main building is 150x165 feet, three stories in height. The kilns are 36 feet in diameter, giving them an extra large capacity.

The company owns an extensive bed of

clay located near the plant, possessing the necessary qualities for the manufacture of high-grade products. The clay is hauled to the plant by locomotives and cars owned by the company. The latest improved machinery, labor-saving devices and modern equipment have been installed. The plant is now rapidly nearing completion, and it is expected to begin operation about November 15. It will employ about 125 men. The constructing engineer is L. S. Russell.

The company will manufacture the various kinds of terra-cotta products, making a specialty of sewer pipe, drain tile and railroad culvert pipe. The establishment of this industry by some of the leading business men of Macon adds another important enterprise to the rapidly-growing manufacturing activities of that city.

South's Reclamation Requirements.

BIG INDUSTRY IN INDIANA DEVELOPED AS A RESULT.
[Special Correspondence Manufacturers Record.]

Fort Wayne, Ind., October 25.

The influence which the development of the South is having in creating industrial enterprises in other sections is strikingly illustrated in the organization and growth of the American Steel Dredge Co. of this city. Some of the big dredges made by this company are now in use in Louisiana on such notable projects as that of the Joyce Land & Reclamation Co., which is draining 100,000 acres of overflowed lands below New Orleans; the Fellsmere Farm Co., which is reclaiming 110,000 acres of Florida land under the general direction of one of the most noted engineering firms of New York; in Virginia, where sections of the Dismal Swamp, famed in song and story, are being drained; in North Carolina, where John A. Wilkinson and others have so emphatically succeeded with reclamation enterprises in various sections of the State; in Mississippi, and in other parts of the South. In these great drainage operations throughout the South, where hundreds of thousands of acres of wet lands are being redeemed for the use of the husbandman, and where millions of acres are available for similar work, many dredges built by this company are in use, as they are in Minnesota and North Dakota, Michigan, Indiana and elsewhere.

The extent of this business created by the development of the South is not, however, more interesting than the origin of the company, which, to a certain extent, is due to the demand from the South for a machine such as this company is now producing. The story is interesting, and illustrates how the material development of one section helps to add to the business and prosperity of another.

For a number of years James F. P. Karr and J. D. Rauch carried on dredging by contract as a business under the name of the American Steel Dredge Works. They were owners of several dredges of various makes and more or less excellence, which they were operating successfully in various parts of Indiana. Finally they determined that they ought to have a foundry and machine shop in which they could make their own repairs with greater economy, both as to cost and time consumed, and so they leased a plant of that kind. Being practical men, and with many practical men in their employ, they began to put what they regarded as improvements in the old machines they had, and almost without knowing it found themselves in possession of a dredge that, while it bore the name of its original builders, was in reality a new machine, embodying their own ideas. These ideas worked out so well when put to the practical test that they decided to build a new dredge in which these and still other new features should be combined. This they did, and the result was a machine that they found to be better for their work than any other they had ever tried.

Soon after they started their first machine to work, and about the time they began the construction of a second one, there came one J. C. F. Sprinkle, a dredging contractor, who had just taken a new contract in Mississippi, and who wished to see their machine before purchasing elsewhere. He liked it, and asked them to build a similar one for him. After considerable demurring on their part and much insistence on his, they finally agreed to let him have the one they were just beginning to build. There came also about the same time a contractor who had a

piece of work in North Dakota, and after full examination and watching the machine work demanded two. An old Mississippi dredger with a new contract heard of the improved machine and came to see it, and when he offered an order for one would not take no for an answer.

Thus, because of the excellent qualities of their machine, recognized by practical men, they were fairly forced into the manufacturing business, which soon made such demands upon their attention that they quit contracting and turned their entire attention to arming other contractors for their work. Six years ago, therefore, they formed a corporation under the name American Steel Dredge Co., of which the present officers are James P. Karr, president; W. A. Bohn, vice-president; J. D. Rauch, secretary and general manager, and treasurer, J. C. F. Sprinkle, who bought the first machine sold.

The first plant of the newly-organized company was located at Logansport, Ind., whence the company moved to Fort Wayne, Ind., about a year ago, and built a thoroughly equipped modern manufacturing plant that is kept busy in meeting the constantly-increasing demand for its machines.

The dredges built are of three sizes—1 cubic yard, 1½ cubic yards and 2½ cubic yards capacity. The hulls supporting the machines are of wood or steel, as the purchaser may prefer. The wooden hull, which is recommended for those who wish to move from one job to another, is of a patented sectional type that can be readily put together and taken apart for moving. The steel hull, intended for the machines that are expected to remain on one job, and to be moved from point to point in water, is put together like a boiler. The superstructure, no matter of what material the hull may be, is of steel, by the use of which lightness may be obtained, coupled with strength and durability. For the support of the hull when the machine is at work there are two varieties of spuds provided, the choice depending upon the surface features of the work to be done. These are the automatic locking band spuds, to which the feet are attached with ball-and-socket joints designed to relieve the spud and other members of torsional stress where the foot rests on uneven ground, and the vertical spuds, equipped with compressed air to overcome the suction. The engines are compactly built, and the gearings throughout the entire machine are cut steel. The machinery, including the engine, is located on the deck, and is easily accessible for operation and repairs.

The dipper is operated by a single cable running direct from the hoisting drum to a large sheave on the point of the boom. This is one of the improvements claimed for this dredge, in that it not only possesses the advantage of economy in cable wear, but also affords much greater reach for the same length of boom, by reason of the cable's leading well beyond the point of the boom, and the natural tendency of the dipper to ram, to which full play is given by this arrangement. Another exclusive feature for which great advantage is claimed is that where bank spuds are used a very long boom and a large dipper may be utilized on a much narrower hull than is usual.

All castings are of the highest quality of steel, the frictions are all of the simplest and most positive type, and the en-

tire machine is, as pointed out in the beginning, the result of the cumulative experience of 16 years' constant work with dredges of various makes, all designed for the same class of performance.

There have been numerous refinements in these dredges, and these are being made continually as they are found necessary or desirable by active practical minds, but the principles recognized and worked out by these same minds and put to use in the construction of their first dredge still form the foundation for each successive one constructed. It is interesting to note that this first dredge is still in operation.

It was knocked down several years ago on the scene of its last performance, and lay there, exposed to the ravages of the weather. A short time ago a man came from Saginaw, Mich., looking for a second-hand dredge, and in a hurry. Manager Rauch hesitated about letting him have

old No. 1, because he had not seen it for several years, and did not know its condition, and because, also, of a sentimental desire to keep it; but the purchaser finally prevailed, the old machine was taken to its new home, and upon being set up went right to work as though it had been resting but over night.

The company's site consists of 10 acres of ground on the Belt Line Railway, that serves all the trunk lines entering this city. It has a commodious building fitted up with every facility for handling big work with economy. And, above all, its affairs are directed by men of enterprise and liberality, who have obtained their knowledge of the business in the great university of practical experience, and to the South, with its ever-increasing demand for machinery of this kind, must be given the credit for helping to build in Fort Wayne such a great enterprise.

GEO. BYRNE.

How the South May Develop Insurance Interests

By F. H. McMASTER, Insurance Commissioner of South Carolina.

The request has been made that an article be written "showing how the South may safely develop its insurance interests, and how safe and well-managed companies of this section can so safeguard the interests of the public as to avoid the possibility of the development of mushroom companies predestined to failure."

The form of the request is because of two lamentable facts. The first is that the South has not developed its insurance interests, and the second is that there is danger of the development of mushroom companies predestined to failure. Both of the questions may be satisfactorily answered in a very few words after a general consideration of the whole subject. The most hurried survey of the field will show that the South is not the only section which has failed to develop its insurance interests—more is the pity. Indeed, broadly speaking, the insurance interests of the United States may be said to be centered in the five cities of New York, Philadelphia, Newark, Hartford and Boston.

For convenience, insurance is divided into three groupings—life insurance, fire and marine insurance and miscellaneous insurance. The last includes fidelity, casualty, accident and health, and practically all lines not included in the two first-named classifications.

The total assets of all of the insurance companies in the United States are about \$4,898,000,000. The annual income of all the insurance companies in the United States is about \$1,278,000,000. In the five States of New York, New Jersey, Pennsylvania, Connecticut and Massachusetts, which practically means the five cities named above, about \$3,700,000,000, or three-fourths of the entire assets of the insurance companies of the United States, are controlled, and about \$897,000,000, or three-fourths of the annual incomes, are received. The domination of these five States in life insurance and in fire and marine insurance is particularly striking. In Baltimore, Md., is a group of the largest fidelity, surety and casualty companies; in Michigan are some of the largest health and accident companies, and scattered throughout the country are a number of fire and marine insurance companies and life insurance companies, some of them among the largest of their kind. But the aggregates of assets and incomes of all other companies do not compare with the companies which have their home offices in the five States named. In the

city of New York alone there are about one-half of the assets and incomes of the life and the fire and marine insurance companies in the country.

When a realization is had of what insurance really is, and of the uses to which the assets of insurance companies may be (and have been) put, the dreadfully unhealthy condition in respect to insurance of the whole country and the mandatory need of a decentralization of insurance interests and a general development throughout the country will be appreciated. In 1864 one of the leading insurance journals of the country said:

"In no other department of business has there been so much jugglery and so much false pretension as in life insurance."

And the mind of the general public today is willing to believe that insurance is a species of legerdemain, or legalized gambling, and that there are all manner of profits to be had from it. There is little general appreciation of the fact that life insurance is one of the most exact mathematical sciences of the day, and that there is the most earnest strivings to bring all other lines to the same basis. One of the greatest obstacles in the way of accomplishing this is well intended but unwise legislation, because of a misunderstanding of the principles of insurance.

Now, what is insurance? It is that factor in economics which will meet the responsibilities of those who fall below the general average. Life insurance meets the responsibilities of those who die early; fire insurance the responsibilities of those whose houses or goods burn, and the miscellaneous lines meet the responsibilities of those who suffer loss in various ways which the majority of their fellows escape.

While, as seen, insurance has a field wherever the individual would relieve himself of chance of failure, yet it is the necessary and essential handmaiden of commerce. The merchant or manufacturer cannot risk his enterprise to the thousand and one chances which threaten it, and against which he can only provide by becoming a contributor to a common fund created for the relief of those whom the fickle goddess fails. As the South and West have only become commercial in recent years, the demand for insurance has only become imperative in recent years in these sections.

It is apparent that insurance is purely mutual in its nature. The policy-holder is both insured and insurer. The managers of the common fund are merely its

administrators. No company could last if the policy-holders did not contribute not only enough to pay all losses, but also reasonable compensation to those who administered the fund.

Equally it becomes apparent that it is just as reasonable to send out of a community all of the individual earnings of its citizens for investment elsewhere as to send out of that community the fund created by the contributions of all for common protection; provided, of course, that there are sufficient risks of similar character in a community to make a general average. If there be only one skyscraper in a community, it may be necessary for its owner to join himself with owners of skyscrapers all over the country to form a class large enough to provide a fund sufficient to pay the general average of losses on that class of building.

This brings us to the question of what is a general average? A general average has to do only with losses, and, once created in this respect, the only other factor of cost is that of expense of management. There has entered, particularly in life insurance, that vicious human element of the greater distance of management from the parties at interest and the more unobtainable the knowledge of details of management to those for whom the management is done, the more careless and extravagant is the management. In America there has been the most flagrant abuse of taxation without representation, so far as life insurance expenses are concerned, and many of those entrusted with control of life insurance companies have been most wasteful and extravagant in this respect. This has been most notable in the largest companies. The smaller companies, as a rule, have been free from it. Therefore, it is found that the element of expense has not been lessened by greatness of size, and that members of the smaller companies have given insurance at smaller cost than the larger ones.

Coming back to the question of what makes a general average, examples of three different types of life companies which have been eminently successful and which have given unexcelled results to their policy-holders are given:

The first is a company which has confined its work to practically one city. It is the German Mutual Life Insurance Co. of St. Louis, Mo. It was established in 1853, and at last reports had only 1495 insureds, who held \$2,969,774 of insurance. In ability to perform its obligations, I do not suppose any other company in the country will boast itself to be better able.

The next is a company which has confined its work to four or five States. It is the Maryland Life Insurance Co. of Baltimore, Md. It was established in 1865. At last reports it had only 4999 policy-holders, carrying \$9,282,629 insurance. It, too, has an excellent record. Its ability to perform its contracts is beyond all question.

The third company is one which has policy-holders over the world, but which confines them to one class. It is the Presbyterians Ministers' Fund of Philadelphia, Pa. It was established in 1759. At last reports it had outstanding 10,051 policies in force, covering \$1,030,521 insurance. I do not suppose anyone will question its ability to fulfil its contracts after 152 years of work that can hardly be equaled in America.

Instances might be multiplied. The names and records of at least nine English companies might be given, each more than 100 years old, none of which has on its books today half as much insurance as the larger American companies write in a single year, but with which, for econ-

omy of management and satisfactory results to policy-holders, only the most conservative American companies can compare. Four examples are sufficient. The Royal Exchange (life) of London was established in 1720. It has about \$40,000,000 insurance in force today. The London Assurance (life) was established in 1720. It has now about \$27,000,000 insurance in force. The Equitable Life of London was established in 1762. It has now about \$42,000,000 insurance in force. The Phoenix (life) of London was established in 1797. It has today about \$27,000,000 insurance in force.

From these examples it may be seen that general averages for life insurance companies may be made up in very restricted areas and from small numbers.

It would expand this article too much to deal in detail with all other lines of insurance, and the successful operations of many small companies in fire, health and accident and all other forms are generally known.

It may not be amiss, however, to cite a few examples of fire insurance companies whose work, while solely to give insurance to their policy-holders at lowest possible cost, has proven ability to produce remarkable results by attention to primary rules of care and selection, and at the same time become splendid agencies for fire prevention. Again three types are given: One doing business in only one city, another in one State and another throughout the country on selected risks.

The first, which confines its business entirely to one city, is the Philadelphia Contributionship for the Insurance of Houses from Loss by Fire, of Philadelphia, established 1752. It issues perpetual policies only on brick and stone dwellings, stores and dwellings, churches, schools and private stables in Philadelphia and suburbs. The insurance costs practically nothing but the interest on the deposit premium for first 10 years, and which afterwards draws annual dividends. The dividends have been 10 per cent. annually during the last 15 years; assets, \$5,914,858.60; insurance in force, \$19,099,909.

The one which does business throughout one State only is the Southern Mutual Insurance Co., Athens, Ga., established 1848. It insures preferred risks, such as dwellings, first-class mercantile risks, churches, schools, etc., throughout Georgia, charges the same rate as the Southeastern Underwriters' Association and returns dividends at end of year. The average return premium for past 20 years has been 64 per cent. of the premium paid. Its assets are \$1,113,007.61, and insurance in force \$36,852,547.

The one which does business throughout the United States, but confines its business to special classes of risks, is the Boston Manufacturers' Mutual Fire Insurance Co. of Boston, established 1850. This company belongs to the Senior Conference of Mill Mutuals. It writes cotton, woolen, silk, paper and other mills. The cost per \$100 of insurance has averaged 6.76 cents for the past 10 years. Its assets are \$2,472,193, and insurance in force \$332,825,471.

To show how the South, or any section, may develop its own insurance interests is to inform the public along the above stated lines, and to teach them that honest and intelligent management and only modest capital is needed to insure the success of insurance companies. And further, to impress upon the public the immense drain there is upon any section which does not have its own insurance companies is to show the great need for such institutions. The condition of South Carolina, my own State, is not unique. During 1910 the insurance companies of other States, after paying license

fees and taxes, agents' commissions and all other expenses of getting business, and all losses in South Carolina, took out of the State more than \$2,000,000. This is more than the entire revenues of the State government.

Insurance reports for the year 1910 only of seven of the Southern States are available for my use. These are from the States of Maryland, Virginia, North Carolina, South Carolina, Georgia, Tennessee and Alabama. The aggregate of insurance premiums for the year 1910 taken from these seven States by insurance companies of other States and foreign countries was somewhat in excess of \$78,800,000. Only in my own State, South Carolina, have I the amounts paid back by way of losses, commissions to agents, taxes, license fees and other expenses of doing business, but, judging by the results in South Carolina, it is safe to say that of the \$78,800,000 collected in premiums not more than 52,700,000 was returned in all of the ways mentioned, and that at least \$26,100,000 went to enrich other sections. It is a wonderful tribute to the fertility of the States named that this process has continued so long. It will be no tribute to the intelligence, the enterprise, the honesty and the patriotism of the citizens of these States if the process is permitted to continue.

Now as to the second part of the query. The organization of mushroom companies, predestined to failure, may be prevented by thorough publicity. There is no other business more fully exposed to public gaze than insurance in those States where it is most successful and stable. Full publicity of the purposes and plans of any proposed organization will help any worthy insurance organization, and it will nip in the bud those of fraudulent aim. Somewhat as a corollary of this is the need to take out of politics the office of insurance commissioner and make it free to act subject only to judicial control under a rule of reason. This has been done in a number of States, among which are several of those in the South.

So it may be expected that there will be a development of the insurance interests in those States in the near future.

The Birmingham Iron Market.

[Special Cor. Manufacturers Record.]
Birmingham, Ala., November 6.

The status of the pig-iron market is practically the same at this time as at the time of last report. A fairly attractive volume of business, in the shape of small quantities, was offered during the past week, and the price received indicates the maintenance of a \$10 per ton Birmingham schedule. Rumors to the effect that Birmingham iron is obtainable in the Northern and Eastern markets at a concession from the \$10 basis has had a tendency to check buying by Southern interests for delivery after January 1. However, the lack of interest in forward deliveries is no doubt attributable to a greater extent to the general conservative policy being pursued than to a probability of lower selling prices. As has been pointed out, the present cost of pig-iron is just as high, if not higher, than when the product was being marketed to a considerable better advantage. At this time stock figures as of November 1 are not available, but it is understood that a material reduction in the aggregate accumulation has been made during the month of October. The comparison of order-book requirement with the present rate of production is very favorable, owing to the volume of orders placed at recent low selling prices. It remains to be seen, though, to what extent the actual consumption has been provided for. The local melt is considerably short of normal without prospects of a material

increase at an earlier date than January 1 next. The active producing capacity was not changed during the month of October, and only one furnace additional is now being prepared for relighting. In summarizing, we consider the market steady, and with all parties concerned disposed to follow a very conservative course. The \$10 per ton Birmingham schedule can no doubt be made to cover the entire first half in competitive territory, but producers do not manifest a disposition to sell heavily at such figures, while in strictly Southern territory deliveries at the price named are limited to the next four to five months. We quote the market for deliveries extending into the first quarter of next year as follows per gross ton f. o. b. cars Birmingham furnaces: No. 1 foundry, \$10.50 to \$10.75; No. 2 foundry, \$10 to \$10.25; No. 3 foundry, \$9.50 to \$9.75; No. 4 foundry, \$9.25 to \$9.50; gray forge, \$9 to \$9.25; mottled, \$9.

The business transacted in the cast-iron pipe market during the past week was comparatively small. The plant of the United States Cast Iron Pipe Foundry Co. at Bessemer (Ala.) and Anniston (Ala.), as well as the plant of the American Cast Iron Pipe Co. at North Birmingham, continue in full operation without accumulating cumbersome stocks. It is quite likely that the contracts to be placed within the next 90 to 60 days for delivery early in the spring will warrant the full operation of all local capacity. This includes the plant of the former Dimmick Pipe Co. at North Birmingham, Ala., to which repairs are now being made by the owner, the United States Cast Iron Pipe Co. Notwithstanding the decline in the price of pig-iron, there has been no change in pipe quotations. Large municipal contracts would probably be shaded where the specifications called for material actually on yards, but for the sizes to be manufactured and for the comparatively small lots being offered at present the prices we quote are considered a correct representative. We quote as follows for class "B" pipe per net ton f. o. b. cars Birmingham district foundries, viz.: Four-inch to six-inch, \$23; 8-inch to 12-inch, \$22; over 12-inch, average \$21, with \$1 per ton extra for gas pipe.

In the absence of such transactions as could be considered a criterion, the market value of old material cannot be arrived at with accuracy. The trading in that market has for some weeks been very light, however, with dealers manifesting a disposition to hold their tonnages until a stronger demand comes forward. The decline in the price of billets is, of course, not without an effect on steel grades, while the increase in the tonnage of low grade is reflected in the demand for machinery and light cast scrap. We quote dealers' asking prices for all grades as follows per gross ton f. o. b. cars Birmingham:

Old iron axles, standard, \$15.50 to \$16.
Old iron axles, small, \$12 to \$13.50.
Old steel axles, light, \$13 to \$13.50.
Old steel axles, standard, \$14 to \$14.50.
Old iron rails, \$13 to \$14.
No. 1 railroad wrought, \$11.50 to \$12.
No. 2 railroad wrought, \$8 to \$8.50.
No. 1 country, \$7 to \$7.50.
No. 2 country, \$6.50 to \$7.
No. 1 machinery, \$8.50 to \$9.
Standard car wheels, \$11 to \$11.50.
Tram car wheels, \$8 to \$8.50.
Light cast and stove plates, \$7 to \$7.50.
There has been no change in light-weight rails, producers' asking prices being practically the same as last reported. For 12-pound weights \$28 per net ton is the market quotation, with 16-pound, 20-pound and 30-pound weights quoted at \$25 per net ton. These prices, of course, apply to carload lots at Birmingham.

Texas' Call to Homeseekers.

By FRANK EBERLE, Director of Publicity, Texas Land Exposition.

While the call of the land in America is still insistent and to be heard from every quarter, the call for labor is more vociferous. Millions of acres of unoccupied land in Texas and other States lie waiting to be taken up and cultivated, and these fertile acres will produce not only an independent living, but fortunes for those who cultivate them wisely and assiduously.

Southern and Western States with large acreage of rich land, which is idle but available for cultivation, are exerting their efforts to secure settlers to till the soil and increase the State's productive wealth. Texas is adopting a new plan to attract homeseekers, and is going to have a great big land show to be dignified with the name of Texas Land Exposition, to be held at Houston January 15-28, 1912, its purpose being to interest people in Texas and bring them to this agricultural district.

Land shows have been held in the big Eastern cities for years, their purpose being to acquaint the people with the advantages of owning land and with the opportunities which land ownership now present to the farmer, to the fruit grower, to the live-stock and poultry industry. These land shows have been held near the center of population, remote from the lands available for farm purposes, and while they have accomplished much good in the way of presenting the advantages and opportunities to be derived from land ownership, they have not done enough. They have not been near enough to the lands to enable the masses of the people who are seeking homes to visit the lands. The results desired have therefore been only partially accomplished. The interest in lands thus awakened has passed into a state of lethargy and the important lessons which the land shows taught have been forgotten.

The Texas land show is to be held in the center of one of the most productive semi-tropical sections of the world—the rich and famous "Gulf Coast Country" of Texas, convenient to millions of acres of fine agricultural lands that are available to settlers and homeseekers. It is proposed to bring the people to the lands and let them see for themselves. The man who wants to buy a farm naturally wants to be shown what he can buy. He wants to see the country in which he contemplates locating, to study its opportunities, to learn something of soil and climate. He is not satisfied with seeing what the land will produce; he wants to see the land itself. For this reason this great Texas Land Exposition is to be held in the greatest of land States, where those who seek homes can be shown the country and the people, where they can study the surroundings and judge for themselves. This big land show will bring the people to the land and enable them to enjoy the climate in the dead of winter, when their Northern homes are clad in a mantle of ice and snow. They can then appreciate the advantages of a mild climate in a country with winter transformed into spring, where fruits and flowers grow all the year outdoor and several crops are produced in a season.

Coming from their cold Northern homes into the sunny South in midwinter, the contrast must certainly make a most favorable impression upon these visitors. The difference in temperature and surroundings must necessarily impress homeseekers and serve as an object-lesson that cannot soon be forgotten. To come to Texas in the winter time, when the North is shivering with cold, is to convince home-

seekers of the advantages of Texas and to create a longing for a home in this delightful climate. One might read volumes, even whole libraries, about the glorious climate and productive soil of the Lone Star State and yet not be able to comprehend their worth and advantages. Texas must be seen to be appreciated. Words are inadequate to describe its wonders, its

Employers and the Closed Shop.

By DANIEL T. PIERCE of New York.

The closed shop is of such vital importance to the trades-unionist that he believes he must never cease striving for it. On the other hand, the employer is convinced that he must fight closed-shop conditions to the last ditch. It is for this reason that labor wars occur in which both sides prefer extermination to the surrender of what each considers a vital principle. This was the state of affairs in the great Philadelphia car strike in 1910. Few people outside of the contestants knew what this nine weeks' strike was about or why it could not be stopped. No conflict over wages would have lasted half so long or have been so bitterly fought. It was essentially a contest for and against the closed shop, and as an example conveys some idea of the importance of this issue to the public at large as well as to the immediate contestants in labor warfare.

Furthermore, the alignment of the public for or against the closed shop will in the end decide this question—another reason why it should be considered from all sides and in the light of all the facts obtainable. At present the most enthusiastic trades-unionist must admit that public opinion is very unsympathetic toward the closed-shop idea. It is opposed to traditional conceptions of right and justice. The notion that an employer may hire whom he pleases is quite as generally held as is the companion theory that a man may work when and for whom he elects. It is only the trades-union advocate who rejects the first part of this proposition while holding firmly to the second dictum, adding thereto the claim that union men may determine not only when and for whom they will work, but with whom they will associate as workers.

The merit or demerit of this claim depends altogether upon how it works out in practice. The employer thinks that it works out very badly, and that is why he fights against the closed shop. Let us look at his reasons more in detail.

A certain number of employers oppose the closed shop for no other reason than the inherent spirit of resistance that all men feel toward anything that is sought to be imposed upon them by force or duress.

Cases are frequent where acceptance of closed-shop conditions would be a great advantage to the employer, quite aside from the avoidance of immediate trouble. But such conditions are nevertheless rejected—not for the definite reasons based on experience, to which I shall presently refer, but because employers cannot bring themselves even to the point of tolerating the idea of submitting to a demand for the surrender of their rights to hire whom they may select as the most desirable employees. In one case I have in mind there was no question but that the union men (who refused to work except in closed shops) were the best men, and that open-shop conditions meant the employment of

opportunities, its vastness and its grandeur. There is only one Texas, but there is plenty of it, and variety enough in soil, climate and conditions to satisfy every conceivable taste of the most particular homeseeker. At the Texas Land Exposition the products of Texas will be exhibited, and those who come from afar to attend this interesting show can see for themselves and select a home to suit themselves, and the homeseekers will become homeowners, with every prospect of happiness and prosperity ahead.

an inferior class. This form of resistance on principle to the imposition of the closed shop, without regard to its advantages or disadvantages, is not taken into serious account by labor advocates, although to ignore it is to overlook a widely-pervading quality of human nature.

When we come to definite reasons for opposition to the closed shop, the first one is, of course, that it places employers wholly at the mercy of their employees. And this (although omitted by Mr. Darrow, perhaps as being too obvious) is the very reason why the unionist demands closed-shop conditions just as insistently as the employer opposes them.

If a shop, factory or railway management is faced by the certainty of a complete walk-out of employees not easy to replace, it is possible for the men to secure concessions that would be refused if the alternative were no worse thing than a strike of half the men employed. Fully realizing this, the president of a very strong labor organization told me not long ago that he had no use for wage and hour demands or strikes for any reason until he had first secured a closed shop. He believed in keeping quiet about everything, he said, until exclusive recognition of his union was obtained. Not until then was it time to talk about conditions of employment.

Is there any cause for wonder that the employer, knowing what is likely to happen to him, resists the closed shop before it is too late to make an effective fight? He knows that not even the rule of what the traffic will bear limits the demands of a trades-union when once it is in full control. The labor leader I have already quoted, to my statement on one occasion that the wage demand he was making would bankrupt the corporation involved, replied with entire resignation: "Well, receivers have usually been very good to us."

A further general cause for opposition to the exclusive recognition of a union is that it destroys that individual feeling of responsibility for results which is absolutely necessary in the make-up of a good workmen of any kind. In a closed shop this feeling entirely disappears except among the very highest class of workers. The men are led to feel that they need not do their best; the union will protect them from discharge except for the gravest reasons, and why should they "break their necks" for the employer?

Every trades-union constitution I have ever seen contains the statement that one of the objects of the organization is to improve the standards of workmanship. Every employer believes, and with a good deal of superficial evidence to justify this belief, that the union is mainly for the purpose of protecting and fostering the inefficient man. This belief is confirmed by observing that in the typographical union, for example, the really good men

make their own wage contracts, far above the union scale, on the basis of superior efficiency, and that the restrictions placed upon employers as to apprentices and wage minimums are solely beneficial to the relatively incompetent. Since I have mentioned this union to prove one point, it is only fair to say that while results vary, there are a great many closed-shop printing offices of which the worst that the employers can say is that they are under irksome restrictions and rules that have greatly increased the cost of printing.

Among other general reasons for fighting against the closed shop is this, that the leadership and policy of unions constantly shifts, and that what might be a "safe risk" today would be found very undesirable next month. While there is no such thing as a closed-shop railroad, as a matter of fact practically all skilled railroaders are steadfast union men. There is not much effort to oppose unionism even on roads where recognition is withheld. This is mainly because the leadership and policy of steam railway unions is fairly stable and reasonable. As a railroad man would say, "You can get along with them." With street railway employees the case is quite different. The constant shifting of the men themselves imparts a similar character to the union. It is known besides that where this union gets the upper hand its demands are insatiable. It was so in San Francisco and elsewhere. In Detroit, which has had the latest street railway strike (based on demands for higher wages than are paid in New York or Chicago), the closed shop exists in a somewhat peculiar form. All platform employees are union men. A new employee may remain on the system for 90 days, and then if he does not join the union or is rejected by it he must be discharged by the railway company.

Bitter experience has shown that discipline suffers in direct proportion to the dominance of unionism on a street railway. With the union "grievance committee" as a refuge from punishment the disposition of the majority is to disobey rules and take liberties of which the employee who pays first and undivided allegiance to his employer would never be guilty. Are these good reasons for opposition to the closed shop? The employer thinks so, and his opinion will not change until he becomes convinced that the union man works as faithfully as does the non-union man, dependent as he is upon his own merit for advancement and retention in service rather than upon the coercive power of an organization.

In manufacturing the experience of many employers is that the stronger the union element the less the amount of work done. Limitation of output is an admitted factor in trades-union policy. A shop strike in a New York factory was recently brought on by the fact that a raw country boy insisted upon turning out more "pieces" than the old hands had settled among themselves as being a proper day's work. The new man was warned to cease his pernicious activity; then his discharge was sought, and when this was refused all the employees went on strike.

Can the manufacturer be expected to favor or yield to conditions which limit the output of his shop per man for the purpose of giving employment to a larger number of workers? Of course, where "speeding up" reaches the point of overtaxing the worker he is justified in objecting, but the employer's experience is that shop workers, acting in concert, will "soldier" not to avoid overwork, but deliberately to limit production. If the shop is "closed" the employer is almost helpless in combatting this condition.

The academic view of this question is

not unlike that of some judicial interpretations of anti-monopoly laws. There is nothing inherently wrong about the closed shop, textbook writers tell us; it may be either a harmful or an admirable institution, and is to be judged according to results, not theories. The closed shop in the glass blowing industry proved to be an economic evil, while in other trades it has been productive of good.

The employer, however, does not feel justified in placing himself at the mercy of his employees, and then hoping for the best. He refuses to take such a risk. He argues that the closed shop in his own or some industry with which he is familiar has meant intolerable tyranny, absence of discipline, limitation of output, limiting of apprentices to an unreasonable extent, insatiable wage demands, a wholly indifferent attitude of workmen in the mass to the employer's interests, and the breaking down of the friendly, loyal relation that exists between employer and individual employees.

The belief among employers is very general that there is literally no end to the demands of unions. A good many demands that might otherwise be granted are rejected for this reason alone. That is, the employer would concede a 10 per cent. wage increase today if he did not feel that this was only the forerunner of successive demands which he could not grant. "What's the use," the employer argues, "in giving these men an eight-and-a-half-hour day; they will only come back with a demand for eight hours, and when they get that they will want to work only seven hours."

The employer feels that the labor leader must be constantly making demands, reasonable or unreasonable; that the leader's continued leadership depends upon his success in extorting one concession after another from the employer, and naturally the latter argues that he must make a stand or eventually fall under exactions which would ruin him. In this way the real or imagined impossibility of satisfying the labor organizations—as distinct from its members—becomes another reason for opposing the closed shop. Much is made of the "democracy" of trades-unions. It is claimed that official action is always based upon the will of at least a majority. Employers know, however, that the officers really determine union policy, and that they are not noted for restraining unreasonable and aggressive factions among their men.

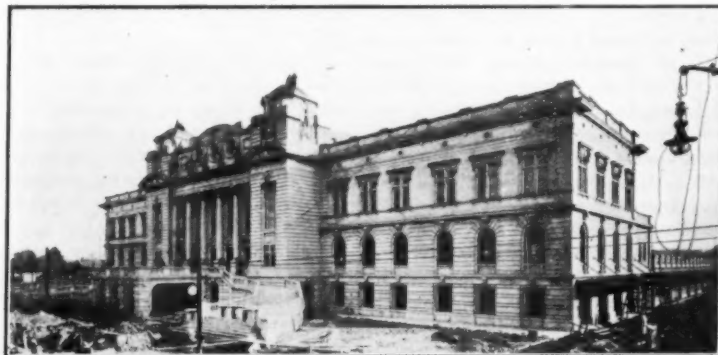
Aside from situations which make this line of reasoning applicable, employers know that exclusive recognition of a union does not provide the slightest insurance of peace, especially in the event of sympathetic strikes or jurisdictional trades disputes, i. e., effort by one union in a trade to secure preferential treatment over another organization in the same trade. New York builders found this out at great cost. A less known but more typical case was that of the paving companies, who granted every demand of one union, only to find themselves in more trouble with a rival organization in the same industry, and with every trade that happened to sympathize with the union that was left out. Having gone through a jurisdictional labor war, or even to learn the details of one, is enough to convince most employers that the closed shop is the worst manifestation of something that should be fought all along the line.

In the trouble that has been brewing for months on the Western railways the closed shop demand took a form, not absolutely novel, but sufficiently alarming to railway managements and other employers to make them more than ever hostile to this demand. In brief, the railways were told that not only must they recognize

the blacksmiths and other trade organizations represented among their shopmen, but must give recognition to a federation of such trades-unions. Trouble with separate organizations is bad enough, the employer argues; to place a railway in such a position that one mechanical trade would be backed up by all the others is unthinkable. The railways feel that they must oppose such a move; otherwise, a strike by a handful of car repairers at Roseville, Cal., might easily lead to a tie-up of the whole Omaha shops. Is it to be expected that an employer would take such a risk, depending not only upon the reasonableness of one but of every division of its employees?

All through this discussion it can hardly fail to be noted that the best arguments in favor of the closed shop from the employer's viewpoint are, to employers, fatal objections. Conversely, what the employer says against the closed shop convinces the workingman of the union variety that it is what he wants more than anything else. This brings us apparently to an irreconcilable conflict, but there are means of solution nearer at hand than the vision of the brotherhood of man.

The most hopeful of these cures lies in the more intelligent and more honest leadership of labor. There are already a number of trades of which the union policy is so permanent, wise and reasonable, and in which the union's good faith and responsibility is so well demonstrated that employers in these trades no longer fight against the closed shop. Such unions are increasing in number, and in time they will be the rule rather than the exception. Then, and not sooner, the closed shop will cease to be opposed by employers. The present union policy of attempting to impose the closed shop by main strength, instead of by deserving it, is following the line of greatest resistance and one that contains not nearly so bright a promise of success as the policy of rendering the employer tolerant or even receptive to the closed-shop idea.



THE NEW UNION STATION AT MEMPHIS.

The new union station at Memphis, Tenn., which will be completed in a short time, will be used by every railroad entering the city except the Illinois Central, which has a station nearby. The building shown in the accompanying cut is 278 feet long by 78 feet deep, with an express building adjoining 200x60 feet. Structural-steel train sheds of the butterfly type of construction extend from the concourse over the platforms where the passengers enter and leave the trains. The depot is built with a facing of Bedford limestone furnished by the Henry Struble Cut Stone Co. of Bedford, Ind., and Chicago, with granite base and steps, material for which was furnished by the Woodberry Granite Co. of Hardwick, Vt. Other materials entering prominently into its construction include the marble for interior finish from the Blue Ridge Marble Works, Nelson, Ga.; faced brick furnished by the Sibley-Menge Brick & Coal Co. of Birmingham; ornamental terra-cotta from the Atlantic Terra-Cotta Co. of New York and Atlanta, Ga.; structural steel and iron furnished by Noelke-Richards Iron Works, Indianapolis; glass work furnished and installed by Binswanger & Co., Memphis; terra-cotta fireproofing from the National Fireproofing Co. of Pittsburgh; common brick from the Cubbins Brick Co., Memphis; woodwork trim by the Alfred Struck Company, Louisville; electric work by the Lytle Electric Co., Memphis. The extensive plumbing contract was carried out by M. F. Rourke & Co., Knoxville, Tenn., and the painting was done by the J. W. O'Connell Painting Co. of St. Louis. The estimated cost of the building, exclusive of land and furnishings, is \$600,000. It is owned by the Memphis Union Station Co., J. L. Lancaster, president. The architect is J. A. Galvin, Louisville; chief engineer, J. Werness of Louisville; Murch Bros. Construction Co. of St. Louis, Memphis and Dallas, contractors.

SHOWING THE SOUTH.

Southern Railway's Exhibit of Farm and Orchard Product.

[Special Cor. Manufacturers Record.]

New York, November 6.

At the American Land and Irrigation Exposition, which opened at Madison Square Garden Friday, there are displays of farm and orchard products from every portion of the United States and from Canada, but none excels the exhibit from the Southern States made by the Southern Railway system, which has expended several thousand dollars in collecting material for exhibit purposes from all parts of the territory served by its lines.

The Southern Railway's booth is 60 feet long, and the arrangement of the exhibit is most tasteful and attractive. There are exhibits of cotton, tobacco, the grains, grasses and forage crops, sugarcane and all kinds of garden truck, and an unusually fine fruit display. The walls are covered by a large map of the South, sheaves of grain and grasses, a score of large colored photographs of typical Southern farm, field and orchard views. There are a half-dozen tables of the Southern apples, which will convince all who see them that the Southern apple-growing districts are surpassed by none. Special literature has been prepared for circulation at the exposition telling of the Southeastern States, and especially of their farm lands and products. As a souvenir there is a beautiful album of 12 views.

Each day an illustrated lecture on the Southeast is delivered by M. A. Hays of the land and industrial department of the Southern Railway. For this lecture 150 new colored slides have been made. The lecture covers the industries, the agricultural resources and developments, the scenic attractions, the resort centers of the Southeastern States, gives characteristics of Southern life and tells about the wide variety of opportunities found in this section. Among the various topics taken up from day to day are scenes and descrip-

tions of the attractive cities and towns and sections travelers may see in a journey through the Piedmont, mountain and coast districts; where the Northern people go in winter to rest and play, the great summer resort regions of the South; farms and farming in the old and new South; where the largest yields of corn are made; the wealth of grasses and forage plants, the alfalfa districts; how the cheapest beef and pork are produced; the building up of the dairy industry; the story of the apple and peach districts from Virginia to Mississippi; why the fruit-growers from the North and West are coming South to secure cheap orchard lands; the cotton industry from the planting to the weaving; what the cotton crop means to the planter and to the South; the great tobacco districts; the boys' corn clubs, and success of Northern farmers in the South.

IRON AND STEEL IN 1910.

Comparison of the Records of Seven Notable Years.

The iron and steel industry in the United States broke all previous records in 1910, according to Ernest F. Burchard of the United States Geological Survey. The iron-ore production was 56,889,734 long tons, the pig-iron production 27,393,567 tons and the steel production 26,064,919 tons. These figures show increases over the production in 1909 of iron ore, 5,734,297 tons; pig-iron, 1,508,096 tons; steel, 2,139,898 tons. The following table shows the enormous growth of the iron and steel industry in the United States since 1900:

Production of Iron Ore, Pig-Iron, and Steel in the United States, 1900-1910, in Long Tons.

	Iron ore.	Pig-iron.	Steel.
1900.....	27,553,161	13,789,242	10,188,325
1905.....	42,526,133	22,992,380	20,023,947
1906.....	47,749,728	25,307,191	23,338,131
1907.....	51,729,619	25,781,361	23,362,284
1908.....	55,924,771	25,936,018	24,023,247
1909.....	51,155,437	25,795,471	22,955,921
1910.....	56,889,734	27,393,567	26,064,919

The value of the iron ore produced in 1910 was \$140,735,607, as against \$102,964,903 for 1909, and that of pig-iron was \$425,115,235, as against \$419,175,000 in 1909.

Iron ore was mined in 28 States in 1910. The following table shows the production of the five leading States:

Production and Value of Iron Ore in 1910 in the Five Leading States.

	Long tons.	Value.
Minnesota.....	31,966,769	\$78,462,569
Michigan.....	13,393,906	41,393,585
Alabama.....	4,801,275	6,083,722
New York.....	1,287,269	3,848,683
Wisconsin.....	1,149,551	3,610,349

Virginia was sixth in output and Pennsylvania seventh, each producing less than 1,000,000 tons.

In the production of pig-iron however, Pennsylvania heads the list, as usual. The five leading States in pig-iron production were as follows:

Production of Pig-Iron in 1910 in the Five Leading States.

	Long tons.	Value.
Pennsylvania.....	11,272,323	\$180,695,328
Ohio.....	5,752,112	88,122,585
Illinois.....	2,675,646	42,917,262
Alabama.....	1,939,147	23,754,561
New York.....	1,928,407	32,410,165

Michigan and Indiana together ranked sixth, with a production of 1,250,000 tons, and no other State reached the half-million mark.

During 1910, of the 451 iron-ore mines in operation, 191 mines produced over 50,000 long tons each, the largest quantity produced by a single mine being 3,190,063 tons, by the Hull-Rust mine of the Mesabi range, Minnesota. Nine mines in Minnesota, besides one group of mines in Michigan and one group in Alabama, produced more than 1,000,000 tons each, the second greatest production being 1,763,067 long tons by the Red Mountain group of mines, near Birmingham, Ala. Two-

ty-five mines produced more than 500,000 tons each.

Importations of iron ore in 1910 were the greatest in the history of the industry, being 2,591,031 tons, valued at \$7,832,225. Exports were 644,875 tons, valued at \$2,074,164. Figures showing the foreign production of iron ore are not yet available for 1910, but the following table for 1909 shows the supremacy of the United States in iron mining:

World's Production of Iron Ores in 1909, by Countries.

United States.....	long tons.....51,155,437
Germany-Luxemburg.....	metric tons.....25,506,000
United Kingdom.....	long tons.....14,979,979
France.....	metric tons.....11,836,000
Cuba.....	long tons.....1,417,914

No other country produced so much as a million tons. It will be seen that the United States produced nearly one-half of the total of the world's output.

In steel production in 1910 Pennsylvania led all States, with 13,207,539 long tons, and Ohio came second, with 5,050,608 tons. The total production of the United States was 26,094,919 tons. A copy of Mr. Burchard's report, "The production of iron ore, pig-iron and steel in 1910," may be obtained on application to the director of the United States Geological Survey, Washington, D. C.

MANUFACTURES AT MARIETTA.

Steady Growth of Industries in the Georgia City.

[Special Cor. Manufacturers Record.]

Marietta, Ga., November 4.

A new enterprise now being organized here is the Nofold Press & Machine Co., to manufacture cottonseed-oil mill and cotton-gin machinery invented by one of its incorporators, who are Messrs. N. W. L. Brown and Marian J. Brown of Marietta and E. N. Brown of the City of Mexico. The inventor was for some years connected with a leading oil-mill machinery works in the South.

The Marietta Knitting Co., R. II. Northcutt, president, has just completed at a cost of \$22,000 an additional three-story building 52x300 feet, and is now equipping it with new machinery. Steam power will be abandoned and the steam plant will be improved to generate electricity for light and power. The Allis-Chalmers Company of Milwaukee is furnishing the electrical machinery at a cost of about \$2500. About 100 horse-power will be generated. The mill as enlarged will have a daily capacity of 10,000 pairs of half-hose, operating 160 knitting machines and employing about 150 operatives.

Another Marietta plant that has lately been enlarged is that of the McNeel Marble Co., which has invested about \$20,000 for a new building 60x300 feet and additional machinery. The latter includes marble planers, marble and granite lathes, polishing machines, two traveling cranes, etc., besides individual electric motors for each machine, as the company is changing its driving power from steam to electricity. From 80 to 100 horse-power will be used. This \$100,000 plant undertakes contracts for monumental and cemetery work, about 150 men being employed.

One of the important Marietta plants is the Kennesaw Paper Co.'s factory for wrapping and news paper and box board, the monthly capacity being from 550 to 600 tons and 125 operators being employed. The company uses from 800 to 1000 horse-power and generates its own electricity by steam power. It also operates the Marietta Power & Light Co. and the Marietta Water-Works, the latter having a daily capacity of 1,500,000 gallons. The Kennesaw Company is capitalized at \$300,000, and J. T. McGehee, Jr., is its treasurer.

The Kennesaw Marble Co. has exten-

sive works here, embodying the latest ideas in fireproof construction and the most improved marble-working machinery obtainable. This plant was built in 1910 to replace the old one destroyed by fire early last year. It is equipped for working silver gray, creole, Cherokee, Southern, royal blue and Italian marble. The buildings are of steel and brick, with metal frame windows in the monitor. The main building, or finishing department, is 171 feet long by 94 feet wide and 30 feet high, and the boxing-room is 50x75 feet; the sawing-room is 51x216 feet. The dock extends over 250 feet along the side of the buildings. About 430 feet is the length of the entire structure. The machinery includes two 180 and two 150-horse-power boilers, furnished by D. M. Dillon of Fitchburg, Mass.; 350-horse-power Hamilton-Corliss engine; 150-kilowatt electrical generator; 350-foot air compressor, furnished by the Chicago (Ill.) Pneumatic Tool Co.; 50-foot-span crane, supplied by the Northern Engineering Works of Detroit; three turning lathes, two polishing machines and one planer from the F. R. Patch Manufacturing Co. of Rutland, Vt.; 15 gang saws on solid concrete foundations and all motor driven, these saws also coming from the Patch Works; 25-ton crane on steel runway 350 feet long, with 70-foot span, this crane being built by the Niles-Bement-Pond Company; electrical motors furnished by the General Electric Co., etc.

Other Marietta plants include general machine works, shipping product throughout the United States; large furniture factory; chair factory, said to be the largest in the South; ice factory, etc.

H. C. CALDWELL

DEVELOPING STONE MOUNTAIN.

One of Georgia's Wonderful Deposits of Granite.

[Special Cor. Manufacturers Record.]

Atlanta, Ga., November 2.

Quarrying has been resumed at Georgia's famous mountain of granite at Stone Mountain, near Atlanta, by the Stone Mountain Granite Corporation, which was recently organized by New Orleans capitalists, the initial capital stock being \$150,000. This company's officers are: President, J. H. Weiblen, recently of New Orleans, but now of Atlanta; vice-president, C. Binder of Atlanta; secretary, William Martin, late of the Pennsylvania Marble & Granite Co. of Philadelphia, now of Atlanta. Others interested are George J. Glover, the well-known building contractor, of New Orleans, and Jaencke Bros. of New Orleans.

The Stone Mountain property has for years been known as one of the great natural curiosities of this State, and for many years granite from there has been used in the construction of costly buildings, including the Federal prison at Atlanta, the Fulton county courthouse at Atlanta, the United States courthouses at Macon, Savannah, Augusta and Louisville; the Carnegie library at Atlanta, and buildings at Chicago, Philadelphia, etc. The granite has also been largely used for paving as follows: 1,300,000 square yards at Atlanta, 225,000 square yards at Cincinnati, 100,000 square yards at Baltimore, etc. Besides these, Atlanta has 900,000 feet of curbing and crossings, Cincinnati 450,000 feet of the same, Birmingham has 275,000 feet, constructed of Stone Mountain granite. Various other cities have also largely used this granite.

The mountain of stone—for it is literally that—comprises about 563 acres of granite, and engineers have estimated that it contains 7,543,750,950 cubic feet of exposed granite above the level of the plain.

This granite is stated to be free from iron, and consequently will have no stains to disfigure the weathered surface where it is used. Besides having been proven of exceptional worth in many years of actual use, the Stone Mountain granite has been given the highest recommendation of chemists, engineers, architects, building contractors, geologists, the United States Government departments and others.

Improving Its Steamers.

The Chesapeake Steamship Co. has made some important improvements to the fine steamer City of Norfolk, which was placed on the run between Baltimore and Norfolk last April. In addition to a thorough overhauling, 10 suites of rooms with baths have been added to the original number of such suites. The large rooms originally fitted with baths have proved so desirable and are in such demand that the company decided to add baths to a number of smaller rooms which were not originally so supplied. The present arrangement admits of passengers obtaining stateroom and bath at a rate of about one-half that for the large staterooms and bath. It is expected that these additional facilities will still further add to the attractions of travel on these steamers. The City of Baltimore will be similarly improved at the next overhauling in a few weeks.

Southport's Harbor.

Chamber of Commerce.

Southport, N. C., November 4.

Editor Manufacturers Record:

On November 23 the first passenger train will be run into Southport, and on that day we are going to have a celebration and formally present our harbor to the South. Every indication points to the fact that our port will develop rapidly with the completion of the Panama Canal and add impetus to industry and manufacturing throughout all the country for several hundred miles west of us. Our harbor is one of the finest on the South Atlantic coast, easy of approach, completely landlocked, 30 feet of water to the docks, which are only four miles from the outside of the bar. The development here is going to make a difference throughout considerable of the South.

R. C. COOL, Secretary.

Master Boilermakers.

The Master Boilermakers' Association will hold its sixth annual convention in Pittsburgh May 14-17, 1912. George N. Riley of the National Tube Co. is chairman of the general committee of arrangements, and J. Rogers Flannery of the Flannery Bolt Co., secretary.

A CORRECTION.

Referring to a statement in correspondence from Bristol, Va.-Tenn., published in our issue of November 2, that the Virginia side of the city expects to put \$100,000 into the construction of a sanitary sewer system in 1912, Mayor W. L. Rice of Bristol, Va., writes to the MANUFACTURERS RECORD:

"Neither Bristol, Va., nor Bristol, Tenn., authorized the circulation of such report. The subject has never been mentioned or thought of by either."

The Fayette Journal of Fayetteville, W. Va., issued last week a specially-bound section of 88 pages full of industrial, historical and personal matter about Fayette county and its people, giving authentic information about one of the greatest coal-producing counties of West Virginia.

GOOD ROADS

WEEK'S HIGHWAY RECORD.

Progress in Southern Road and Street Improvement.

[Full details of highway undertakings are given in the Construction Department.]

Bonds Voted.

Byromville, Ga.—City voted \$1400 bond issue for street improvements.

Loudon, Tenn.—Loudon county voted \$100,000 bonds for roads.

Bonds to Be Voted.

Anderson, Tex.—Grimes county will vote November 20 on \$125,000 bond issue for construction of macadamized, paved and gravel roads.

Athens, Tex.—Henderson county will vote November 11 on \$23,000 bond issue for road construction.

Decatur, Ga.—DeKalb county will vote December 7 on \$550,000 bond issue for road construction.

Fulton, Mo.—Fulton Eight-Mile Road District will vote again on organization of road district and issuance of \$100,000 of bonds for road construction.

Greensboro, Ga.—Greene county will vote December 7 on \$75,000 bond issue for road improvements.

Tallahassee, Fla.—City will vote November 28 on \$30,000 bond issue for paving streets.

Troy, N. C.—Montgomery county will vote in January on \$100,000 bond issue for road construction.

Contracts Awarded.

Bessemer, Ala.—Jefferson county has awarded contract for grading road near Oak Grove.

Memphis, Tenn.—City awarded contract to construct gravel roadway on Arkansas avenue.

Mount Holly, N. C.—City awarded contract to construct cement sidewalks in business section.

Pine Bluff, Ark.—City awarded contract to pave with creosoted blocks West Baroque and West Pullen streets; cost about \$60,000.

Contracts to Be Awarded.

Annapolis, Md.—State Roads Commission receives bids until November 15 for construction of section of State highway.

Attalla, Ala.—City will grade, drain, pave and curb sidewalks and gutters on Fifth avenue and other streets.

Baltimore, Md.—City and Baltimore county will improve Reisterstown road from Fulton and Pennsylvania avenues to Pimlico.

Bartlesville, Okla.—City receives bids until November 14 for grading, curbing, guttering and otherwise improving 10th street.

Farmersville, Tex.—City receives bids until November 15 to construct concrete crossings, curbs, gutters, etc.

Fort Worth, Tex.—Tarrant county postponed date of voting on \$1,000,000 bond issue for road construction from November 25 to December 5.

Kansas City, Mo.—Federal Investment Co. will construct paved roadway.

Lincolnton, N. C.—City receives bids until November 12 for constructing concrete sidewalks.

Memphis, Tenn.—City will pave Mulberry street from Beale street to Calhoun avenue.

Meridian, Miss.—City ordered construction of cement sidewalks on Twenty-third avenue; cement sidewalk, curb and gutter on Thirteenth avenue and 13th street.

New Decatur, Ala.—City receives bids

until November 16 for constructing cement sidewalks and brick crosswalks.

Norfolk, Va.—City will probably award contract to repave Church street with wood and Belgian block.

Paris, Tenn.—Henry county appropriated \$10,000 for road improvements.

Pittsburg, Mo.—City will pave Catalpa street.

Savannah, Ga.—Corinth, Shiloh & Savannah Turnpike Co. incorporated with \$25,000 capital stock to construct road from Savannah to Alcorn, Miss.

St. Louis, Mo.—Board of Public Works will pave 114,000 square feet of King's Highway Viaduct with creosoted wood block on concrete foundation.

St. Louis, Mo.—Board of Public Improvements approved bills, which will be submitted to Municipal Assembly, for street improvements costing \$171,560.

St. Petersburg, Fla.—City will grade and pave Ninth avenue.

Wheeling, W. Va.—City will repave 15th street.

Water Supply for Small City.

Mr. George Hall Hazlehurst, resident engineer at Morehead City, N. C., for James Nisbet Hazlehurst, consulting municipal engineer, Atlanta, writes the MANUFACTURERS RECORD as follows regarding a new water supply system recently completed for Morehead City:

"The source of supply for water for the new water-works consists of five artesian wells with six-inch casing varying from 230 to 525 feet, all overflowing on high tide. These wells were drilled by Sydnor Pump & Well Co. of Richmond, Va. We use no strainer in any of the wells.

"The pumps are in duplicate, each being of capacity of 500 gallons per minute, horizontal compound Worthington pump. These are housed in a brick extension of the electric-light plant. Our reservoir is a 13x120-foot steel standpipe holding 120,000 gallons. This is two hours' supply with four fire streams. Domestic pressure is about 45 pounds average. This structure was erected by J. S. Schofield's Sons Company of Macon, Ga., and is unique in its small diameter for such a height. The pipe, of which there is about 10,000 feet, varies from 10 to 6 inches, and was furnished by the United States Cast Iron Pipe Co. of Chattanooga. The valves and hydrants were delivered by the Fairbanks Company of Baltimore, the hydrants being similar to the Pratt & Cady make. The installation was made by Harris Hardware Co. of Washington, N. C. The system provides for the best of protection for a town of the size of Morehead City."

An Interurban to Be Built.

According to a report from Concord, N. C., Bird S. Coler & Co. of New York have purchased a controlling interest in the Piedmont Carolina Railway Co., and an interurban between Concord and Salisbury is proposed. Mr. Coler is president of the North Carolina Public Service Co., operating the street railways in Greensboro and High Point. He is quoted saying that extension of the Concord Railway will be made immediately. T. H. Vanderbilt and T. J. Jerome of Salisbury, N. C., are also interested, besides J. P. Clark of New York.

Southern Collieries Co.

The Southern Collieries Co. of Charleston, W. Va., has incorporated with an authorized capital stock of \$100,000 to develop coal mines, timber, etc., in Cabin Creek district of Kanawha county. Among the incorporators of the company are T. A. Leyshorn of Quirk, W. Va.; W. G. MacCorkle, S. B. Chilton, S. Hess and T. S. Clark of Charleston, W. Va.

RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

FLORIDA EAST COAST.

Key West Line Expected to Be in Use by January—A Good Year.

Continued progress is shown by the annual report of the Florida East Coast Railway Co. for the fiscal year ended June 30, 1911, and which has just been issued. President J. R. Parrott says that the gross operating revenues were \$4,181,277.80, an increase of \$493,843.50 over the preceding year. Operating expenses were \$2,603,710.19, an increase of \$397,897.32. Thus net earnings from operations were \$1,577,567.61; increase, \$95,946.18. Taxes increased nearly \$9000. Rentals increased nearly \$5500. Hire of equipment increased about \$47,000. After deductions for these various items, there was left \$1,317,129.83, out of which there was paid \$450,000 interest on the first-mortgage bonds, and out of the remainder there was set aside \$800,000 for interest coming due on the general mortgage income bonds, after which there was left \$67,129.83 credited to profit and loss. Expenditures for maintenance were greater than during the preceding year, and the road is in good physical condition.

As to the construction work under way, President Parrott says that satisfactory progress has been made on the Key West extension, track having been laid for more than half of the distance between Knights Key and Key West, and it is expected that the road will be in operation to Key West by January. Construction is also progressing on the branch from Maytown through the Kissimmee Valley south 125 miles to a point at or near the shore of Lake Okechobee. It is through a fertile country. The company sold at par the remaining \$2,000,000 of authorized capital stock (total \$5,000,000), this being in pursuance of the plan for financing the completion of the Key West line.

The classification of freight revenue shows that \$488,387 was from carrying vegetables, \$171,741 from oranges, lemons and limes, \$119,300 from pineapples, \$117,694 from lumber, \$324,028 from manufactures, \$149,180 from merchandise. The total freight revenue was \$2,156,048.31.

The total assets of the company are \$38,539,161.10, which includes the road and equipment at \$31,560,795.68.

IN SOUTHERN GEORGIA.

Development Along the G. S. & F.—Good Showing in Annual Report of the Road.

President W. W. Finley of the Georgia Southern & Florida Railway says, in its annual report, which covers the twelve-month ended June 30 last, that throughout the year increasing numbers of people, mainly from the West and North Georgia, have visited the territory traversed by the line with a view to locating in South Georgia or Florida. Several large tracts of land along and contiguous to it have been divided into sections suitable for small farms, and purchased by settlers, and are now being prepared for cultivation. To encourage such immigration and to assist in obtaining the best agricultural results the company has established a cotton-culture department to advise farmers as to the best methods of growing cotton and other crops. The industrial department is also continuing its efforts to interest parties seeking locations for manufacturing plants, as well as homeseekers. A number of industries were added in the year to those already in successful opera-

tion. Particular attention is being paid to the raising of fruits, vegetables and live-stock, and efforts are being made to encourage dairying.

The statistics as to earnings and expenses display increases in both gross and net receipts. The figures are: Operating revenue \$2,399,398, increase \$77,240; operating expenses \$1,829,094, increase \$27,184; net operating revenue \$570,304, increase \$50,956; operating income after payment of taxes \$457,845, increase \$35,863; total income, \$583,473; balance for dividends after meeting interest charges, etc., \$254,025, increase \$102,900; surplus \$159,998, increase \$97,273; profit and loss surplus \$1,272,442.

NEW TENNESSEE RAILWAY.

Route is from Oliver Springs to the Ohio River—Charter Secured.

The Harriman-Morgan Railroad Co. has been chartered in Tennessee to build a new line from near Oliver Springs westward through Coalfield and Crooked Fork Valley to a point near the intersection of Morgan, Scott and Anderson counties, and thence northward to a point on the Ohio River in Kentucky, altogether about 200 miles. The headquarters of the company will be at Harriman, Tenn., and the list of incorporators is headed by Claude E. Hendrick of that place, who is also president of the Harriman & Eastern Railroad, which is now being completed between Harriman and Oliver Springs. The others are James R. McDowell, Wm. J. Clarke, Joseph N. Baker and Robert B. Cassell. The capital is nominal, being only \$10,000.

The Tennessee Railway, 47 miles long from Oneida to Highhouse, lies almost directly in the route to be followed, and as the charter authorizes the new company to lease as well as to build a line, it may be contemplated to acquire the Tennessee road. The latter is owned by Bird M. Robinson of New York and others.

NEW FREIGHT STATION.

Southern Railway to Improve Its Facilities at Chattanooga.

The Southern Railway Co. announces that it will practically double its freight terminal facilities at Chattanooga in order to provide for properly handling the growing freight business there. This will be done thus:

The existing freight station will be rearranged and used as an inbound freight-house, while a new outbound freight-house 250 feet long and 26 feet wide will be erected north of the present station on Nuby street. Between the two buildings there will be built a transfer platform, 535 feet long and 14 feet wide, reaching from Nuby street to King street. There will be two team tracks south of the inbound freight-house and three east of it. North of the outbound freight-house there will be four team tracks. All these tracks will have a total capacity of 100 cars. A 10-ton pillar crane will be placed to handle freight on two of them.

These improvements are to be so planned that as business increases in the future the freight-houses can be enlarged by extending them east to King street, the tracks also being extended to correspond. Grading for the future track extensions will be done now. Application has been made for the necessary franchises.

A RAILROAD TO TIMBER.

Thirty-five Miles of Line to Be Constructed Immediately Out of Gainesville, Ga.

The Byrd-Matthews Investment Co., St. Louis, Mo., says that the Gainesville & Northwestern Railroad Co., which is to build a line out of Gainesville, Ga., is not

yet organized, and the Investment Company is handling the proposition. The road is to be 35 miles long from Gainesville north to timber lands via Concord and Cleveland, Ga. This will require one bridge over the Chattahoochee River. Major J. F. Brooks, Cleveland, Ga., is chief engineer.

The company is receiving bids for construction now, also prices on materials, and all communications should be addressed to it. Contracts will be let within 10 days or sooner. Prices on 60-pound new and relaying rails are desired. Profiles and specifications can be seen at the company's offices in St. Louis or at the office of Major Brooks at Cleveland, Ga. The route lies through rolling country and connections will be made with the Southern Railway and the Gainesville Midland at Gainesville.

The Investment Company and associates own 150,000 acres of virgin hardwood timber in the northern part of Georgia. Three large sawmills will be in operation as soon as they can be built. It is further stated that there are unequaled opportunities for pulp mill and tannic-acid industries, also furniture factories.

The directors of the Byrd-Matthews Company are: R. M. McCombs, president and general manager, St. Louis; A. R. Byrd, San Antonio, Tex.; J. H. Byrd, St. Louis; C. D. Matthews, Sikeston, Mo., vice-presidents; C. D. Matthews, Jr., treasurer, Sikeston; A. R. Byrd, Jr., secretary, St. Louis; E. C. Matthews, assistant treasurer, Sikeston.

IS SPENDING MILLIONS.

Missouri, Kansas & Texas Railway Steadily Improving Equipment, Road and Buildings.

The Missouri, Kansas & Texas Railway Co. announces that it is investing approximately \$10,000,000 a year to improve its properties and facilities, and that the annual expenditure upon the roadbed and track, the terminals and the equipment promises to be maintained at a high total. During the last fiscal year, for which the report was recently issued, the company spent, in addition to more than \$4,000,000 at the St. Louis freight terminals, the sum of \$14,332,844 for maintenance and betterment, these amounts being over and above those spent for expanding the system.

Analyzing the latter amount (\$14,332,844), it is shown that nearly \$7,000,000 was expended for additions and betterments to road and equipment, \$3,900,000 for maintenance of way and structures, and over \$3,500,000 for maintenance of equipment. Besides, there was nearly \$3,850,000 spent for new equipment. There was also nearly \$900,000 paid for equipment to replace destroyed cars.

"ORIENT" PUSHING AHEAD.

Arthur E. Stillwell's Road Has More Than 900 Miles of Line in Operation.

The Kansas City, Mexico & Orient Railway Co., according to a report from Kansas City, where its headquarters are located, now has in operation 932 miles of its line. When the entire road is finished it will be 1629 miles long. Thus there is about 700 miles yet to be completed. The sections in use are Wichita, Kans., to Big Lake, Tex., 583 miles; Marquez to Sanchez, Mexico, 287 miles; Puerto to Topolobampo, Mexico, 62 miles.

Construction is being pushed especially on 91 miles between Big Lake and Fort Stockton, Tex., on which grading is done and track is being laid. From Fort Stockton to Alpine, Tex., is 66 miles, and the line will connect at the latter point with the Southern Pacific Railway. Most of the grading is done on the line from San

Angelo to Del Rio, Tex., 172 miles. From Del Rio, which is on the border, a line is to be built in Mexico about 30 miles to connect at Allende with the National Railway of Mexico, and giving a direct route to Mexico City. This 30 miles is to be built by the Mexican Government.

The "Orient," as the road is frequently called, also has a detached piece of grading in Kansas between Eldorado and Emporia, 63 miles, which will be used on the way from Wichita to Kansas City. Materials for the bridges and their abutments are said to be on the line. It is anticipated that the road will use the track of the Missouri, Kansas & Texas Railway from Emporia to Kansas City, as the relations between the two roads are already friendly and no right of way has been obtained for construction east of Emporia.

The railway company, as recently announced, issued \$20,000,000 of notes to provide for continuance of construction.

New Equipment.

The Atlantic Coast Line has filed an equipment mortgage to secure bonds for about \$2,778,000 to purchase 15 Pacific-type passenger locomotives, 20 consolidation freight locomotives, 1900 steel underframe box cars, 100 steel underframe flat cars, 25 steel underframe passenger cars, 4 express and mail cars, eight mail cars, three mail and express cars and 9 express cars.

The Kaul Lumber Co., Tuscaloosa, Ala., says a letter to the MANUFACTURERS RECORD, will purchase full equipment for its railroad now building.

The Virginia & Southwestern Railway (a line in the Southern's system) has filed notice of an issue of 641,000 of equipment bonds to purchase 7 Mikado-type locomotives, 600 all-steel double-drop gondola cars of 100,000 pounds capacity, and 65 steel underframe box cars of 65,000 pounds capacity.

The Gadsden Car Works, says a report from Gadsden, Ala., has received an order for 5 cabooses from the Queen & Crescent Route.

The Fort Worth & Denver City Railway has purchased 100 all-steel tank cars of 10,000 gallons capacity each, and will receive immediate delivery of 44 of them.

The Metropolitan Railway of Kansas City is preparing for extensions and improvements, and will, it is announced, have to purchase 78 new cars.

The Baltimore & Ohio Railroad is in the market for 2000 all-steel gondola cars in addition to the equipment recently named.

The Southern Railway has ordered 500 all-steel gondolas from the Pressed Steel Car Co., Pittsburgh.

The St. Simon Railway Co., Brunswick, Ga., will issue \$12,000 of bonds for new equipment.

The Chesapeake & Ohio Railway has ordered 2000 all-steel hopper cars from the Pressed Steel Car Co., Pittsburgh.

The Rock Island lines are reported in the market for about 1300 cars.

The Illinois Central, says a press report, has ordered 40 heavy freight locomotives from the Baldwin Works, Philadelphia.

The Texas & Pacific Coal Co., Thurbur, Tex., is reported to have placed an inquiry for 100 gondola cars with the Pressed Steel Car Co.

Gulf, Florida & Alabama.

Roy C. Megargel, president of the Gulf, Florida & Alabama Railway Co., 5 Nassau street, New York (which recently acquired the railroad of the Southern States Lumber Co. and will use it for its main line between Cantonment, Fla., and Local, Ala.), says that the entire line will be 295 miles long from Pensacola, Fla., to Jasper, Ala., via Atmore, Greensboro and

Tuscaloosa. There are now 20 miles under construction between Pensacola and Cantonment, and, including the lumber road, there are 63 miles now built. The contractors are Charles Merritt and the Eastern Construction Co. of Pensacola.

The route is level for the first 100 miles, but rolling and rough above Tuscaloosa, Ala. There will be two drawbridges—one over the Alabama and the other across the Warrior River; no tunnels.

Connection will be made with the Louisville & Nashville Railroad at Atmore, the Southern Railway at Thomasville, Faunsdale and Greensboro, the Alabama Great Southern (Queen & Crescent), and the Mobile & Ohio at Tuscaloosa and the Frisco and Illinois Central at Jasper.

The directors are: R. C. Megargel, president, New York; W. H. Knowles and John Stillman, vice-presidents, Pensacola; W. S. Keyser, W. A. Blount, A. M. Avery and William Fisher, all of Pensacola. Other officers are: W. K. Hyer, Jr., treasurer; Henry Hyer, secretary; George A. Berry, chief engineer. Headquarters at Pensacola.

St. Louis, St. Charles & Northern.

R. E. Race, first vice-president and general manager of the St. Louis, St. Charles & Northern Traction Co., Mexico, Mo., says that the line, which is to run from St. Charles, Mo., northwest, is now practically past the promotion period, a large amount of the right of way is secured, and the company is ready to give full replies to all inquiries as to the financing and construction. He further says that the route is through one of the most prosperous and productive agricultural and mineral belts now open, reaching from St. Louis into the heart of the northwestern section of the State. Excellent coal deposits are in three counties traversed. Subscriptions and donations can be concentrated upon one division, and the company desires to secure financial and building connections. If the road is constructed in small sections, it will be a heavy building construction and financial undertaking.

Entrance to St. Louis may be secured over existing lines from St. Charles, a short distance west of that city, or the new company may build its own entrance there.

Another Florida West Coast Road.

The Atlantic Coast Line, it is reported, will soon start grading from Dunnellon, Fla., on its extension from there to Otter Creek and Wilcox, about 60 miles. The third and final survey between Dunnellon and Otter Creek, about half of that distance, is completed, and the engineers are proceeding on to Wilcox, where a connection will be made with the company's line existing between Perry and Newberry. Grading is also to begin soon from Perry to Monticello, it is said, and when these new links are completed there will be a new through line from the North and West to Tampa and other points on the western coast of Florida down to Fort Myers. It is understood that the new track will be built with 90-pound rails. The line will run through heavily-timbered lands and also fine agricultural regions.

Extensive Plan in Texas.

The Fort Worth & Southwestern Railway Co. of Fort Worth, Tex., has been chartered to build a line about 350 miles long from Fort Worth to Eagle Pass, Tex.; capital \$400,000. The incorporators are W. D. Morton, L. A. Wright and J. H. Farr of Glen Rose, Tex.; J. M. Goldston of Milford, Tex.; W. B. Harrison and W. B. Paddock of Fort Worth; D. C. Morris of Walnut Springs, Tex., and M. W. Shuler of Waco, Tex.

LUMBER

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

Opportunities for Woodworking.

Yazoo Commercial Club,

Yazoo City, Miss., October 31.

Editor Manufacturers Record:

We have here as fine timber as can be found in the world, including gum, hickory, oak, cottonwood, pecan, ash, elm, some fine cypress brakes and minor timber. There is a furniture factory here making as fine an output as any factory in the country. Its tables are specially notable and are sold all over the country. Only a few days ago it shipped two carloads in one day to Los Angeles, Cal. It makes this furniture out of gum, which takes a peculiarly fine polish. I am told that most of the interior woodwork of Pullman cars is made from gum.

Then the hickory, which abounds, invites wagon and carriage factories. The cottonwood makes splendid boxes, an enterprise very much needed here, by the way. There is a large planting of vegetables being put in this year; that is, being put in cold frames for spring setting. This stuff will need boxes. I do not know of a better opening for a small box plant.

Cottonwood has also been used successfully for barrels. The ash and oak, in addition to the cottonwood, would make a cooperage plant profitable. This being a fine cotton county, I should think a well-managed textile mill would pay. No mill of this sort will pay if inaugurated with some 2000 or 3000 spindles, nor, I think, with less than 10,000 as a minimum.

I am always glad to give you any information you may ask for and assist in even a small way the grand work you are doing to upbuild the South.

E. L. TARRY, Secretary.

Flat Creek Lumber Co.

The Flat Creek Lumber Co., Commonwealth Bank Building, Richmond, Va., recently incorporated with a capital stock of \$50,000 to establish and operate sawmills in Virginia. It has already contracted for a portion of its equipment, but will further consider sawmills, bath and excelsior mills. The company states that it will produce about 50,000 feet of lumber daily, and is in the market for pine timber in Virginia and North Carolina, preferring timber and mills now operating and in a live condition. Officers of the company include F. J. Craigie, Jr., president; J. Harding, vice-president, and Ervin E. Campbell, secretary and treasurer, all of Richmond.

Buys Original Growth Timber.

In connection with a report that it purchased the original growth round timber on the Mose Lee tract, the Luckie Lumber Co. of Rays Mill, Ga., telegraphs the MANUFACTURERS RECORD that it has purchased the yellow pine timber on 3000 acres of land at \$65,000. This company now has, it is said, 4750 acres of timber, together with mill and tramroad equipment for its development.

Black Mountain Coal Co.

A dispatch from Barboursville, Ky., states that the Black Mountain Coal Co. is preparing to open a large coal mine in Harlan county. Dr. Samuel Bennett is president of this company, and operates extensively in Harlan and Bell counties.

TEXTILES

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the MANUFACTURERS RECORD. We shall be glad to have such matters at all times, and also to have any general discussion relating to cotton matters.

Improvements Costing \$80,000.

[Special Cor. Manufacturers Record.]

Covington, Ga., November 4.

The Covington Cotton Mills, N. S. Turner, president, has completed improvements in progress for some time, the cost amounting to approximately \$80,000, and including additional building construction and the installation of new machinery, increasing the plant's capacity about 25 per cent., the monthly output having been about 20,000 pounds of print cloth. The company has added a 100x162-foot room to its weave shed and a 70x100-foot two-story structure to its spinning-room, all of brick, mill construction, with concrete foundation. The new machinery includes 4000 spindles, 128 looms, etc., while the moistening system has been reinstalled and carbon electric lamps are being discarded for tungsten globes. The Lowell (Mass.) Machine Shop furnished the spindles, and the Draper Company of Hopedale, Mass., furnished the looms. Having previously had 18,000 spindles and 450 looms, the company now has 22,000 spindles and 578 looms. About 240 operatives will now be employed, an increase of about 40 workers.

Marion Manufacturing Co.

The Marion (N. C.) Manufacturing Co., D. D. Little, Spartanburg, S. C., president, has awarded a contract to Riddle Bros., Marion, for the erection of new buildings to be equipped with carding, spinning and weaving machinery. The Saco-Pettee Company, Newton Upper Falls, Mass., will furnish the carding machinery, while Fales & Jenks of Pawtucket, R. I., and the Draper Company of Hopedale, Mass., will supply spinning machinery and looms, respectively. J. E. Sirrine of Greenville, S. C., is the architect. This company's plant is at present equipped with 10,240 ring spindles, 254 broad looms, 20 carding machines and other equipment for the manufacture of wide print cloth.

Star Cotton Mills.

Messrs. R. P. Brooks, J. W. Newton and B. F. Hill, Jr., have purchased the Newton-Harp Manufacturing Co.'s plant at Forsyth, Ga., and will incorporate the Star Cotton Mill with a capital stock of \$30,000 to operate it. This mill is equipped with 3360 ring spindles, 846 twister spindles, 40 carding machines and other equipment for the production of coarse yarns and ball wrapping twine.

Guadalupe Valley Cotton Mills.

Reports state that the Guadalupe Valley Cotton Mills of Cuero, Tex., has about completed improvements to its plant and will resume operations within a short time to its full capacity. New structures are being erected, including office building, cottages for its employees and a warehouse. In addition, the company has also enlarged various departments of its plant and installed 5000 spindles.

Lily Mill & Power Co.

The Lily Mill & Power Co. of Shelby, N. C., has awarded a contract to the Goode Construction Co. of Charlotte, N.

C., to erect an additional building for a steam power plant to provide for possible low-water emergencies which might interfere with the operation of this company's electric-power plant. The addition to be erected will be about 32x79 feet, one story high, with brick walls and reinforced-concrete roof. Its cost will be over \$5000. The steam machinery will include an equipment for generating about 300 horse-power. R. C. Biberstein of Charlotte is the architect.

Durham Hosiery Mills.

The Durham (N. C.) Hosiery Mills acquired, it is reported, a small mill in Raleigh, N. C., and will equip for looping work, the plant to be in charge of Claiborne Carr. This company operates plants at Chapel Hill, Goldsboro and High Point, N. C., on the production of ladies' seamless cotton hosiery and yarns for market.

Dwight Manufacturing Co.

The Dwight Manufacturing Co. of Alabama City, Ala., will, it is reported, install 100 Draper looms already purchased. This company is at present operating 60,000 ring spindles, 2000 looms and accompanying equipment on the production of sheeting and drills.

FOREIGN NEEDS

Machinery and equipment wanted abroad are mentioned in many letters received by the MANUFACTURERS RECORD, which is so widely read in foreign countries that we are in constant receipt of many letters from all parts of the world. For the benefit of our subscribers seeking foreign trade we publish the following extracts from recent letters:

Cigar-Box Machinery, Etc.

H. H. Barreda, M. C., Mayaguez, Porto Rico, writes to the MANUFACTURERS RECORD:

"I have an inquiry in my pending file for a complete set of machinery for a cigar-box-making factory of a capacity of about 10,000 boxes per month. It must be of the latest design, as near as I can understand, the outfit of machinery to have corresponding planers, saws, sand-paper machines and all kinds of gigs and appurtenances to elaborate and make all different sizes of cigar boxes, nail them, etc., and all that may be necessary to obtain the manufacture of the goods intended from the rough lumber to the finished product. Want right away complete estimates of the complete outfit of machinery of the above stated capacity. We are in a hurry for the information, and most ready to place the order for the best proposition offered. Also want information about tobacco elaborating machinery, all that may be required in a well-equipped cigar factory. All catalogues and propositions may be referred to H. H. Barreda, M. E., Mayaguez, P. R.

Hydraulic Dredges or Suction Pumps

G. L. Winn, Puerto Cortes, Honduras, Central America, writes to the MANUFACTURERS RECORD:

"I would like to get in communication with three or four manufacturers of hydraulic dredges, suction dredges or powerful suction pumps to be used for filling in the town of Puerto Cortes from the shallow sandy bottom of the Bay of Honduras, upon the north side of which the town lies. The town is low and swampy, and we propose to fill it—like has been done at Galveston, Tex., only, of course, this is a smaller proposition—the filling required being from three to ten feet. The townsite is composed of 72 blocks, 300 feet square, and streets 50 feet. We will probably also fill in the lands back of and ad-

joining the townsite, being an area about four times that of the townsite."

Cotton Duck, Paper, Etc.

S. Saunatz, Athens, Greece, writes to the MANUFACTURERS RECORD:

"I ask the addresses of manufacturers of the following lines: Cotton duck, paper of all kinds, especially printing papers; chalk crayons, motor cars, pianos, pitch pine, oak and several other articles easily sold in Greece and Turkey. Will you let me have the address of some houses importing Grecian products, oil, currants, tobacco, wines, dry figs, etc. The manufacturers who are desirous to enter in business with me are requested to send the samples of their products."

Woolen and Cotton Felts.

Svenska Maskinfaren, Orebro, Sweden, writes to the MANUFACTURERS RECORD:

"If you can put us in connection with some firm making all sorts of first-class woolen and cotton felts for paper and pulp mills we should be very much obliged. Only A1 felts are wanted here, with prices low enough to compete with the best English."

Wants Naval Stores.

Deutsch-Russisches Handels-Syndikat in Hamburg, Hamburg, Germany, writes to the MANUFACTURERS RECORD:

"We shall appreciate your kindness in giving us the names of good firms who ship resin, turpentine oil, residues, etc. We are buyers of large quantities if we can buy these goods on a reasonable scale."

Electric Welding.

The American Society of Mechanical Engineers will consider at its meeting next Tuesday in New York city autogenous and electric welding. Three papers will be presented—one dealing with the general aspects of the subject, the origin and principles of each process and the apparatus used in each, by H. R. Cobleigh, International Steam Pump Co., and two on special phases, thermit welding, by G. E. Pelissier, superintendent Goldschmidt Thermit Co., and electric welding, by C. B. Auel, assistant manager of works, Westinghouse Electric & Manufacturing Co. The discussion will be grouped about the following topics: (a) Electric resistance welding; (b) Electric arc welding; (c) Thermit welding; (d) Oxy-acetylene welding; (e) Oxy-hydrogen welding. Among those who expect to participate are W. R. Noxon, Davis-Bournonville Company; Nelson Goodyear, Nelson Goodyear, Inc.; W. H. Levin, International Oxygen Co.; G. E. Kershaw, Linde Air Products Co.; Henry Cave, Autogenous Welding Equipment Co.; B. Morgan, Newport, R. I.; W. H. Brown, Cleveland, O.; W. H. Spire, Electric Welding Products Co., and L. P. Alford, editor-in-chief the *American Machinist*.

MECHANICAL

Revolving Steam Shovels for Stripping Overburden.

A new type of revolving steam shovel has been developed and manufactured by the Marion Steam Shovel Co., Marion, O., which is claimed to satisfactorily meet the requirements of stripping overburden from coal, iron ore, stone quarries, phosphate rock and other similar materials. This equipment is designated "Model 250," and is shown in the accompanying illustration as in operation. It is stated that these shovels are exceedingly powerful, being carefully designed to successfully withstand the severe shocks and strains incident to the conditions under which they

must operate. They are equipped with extra long booms for stripping wide cuts and dumping the excavated material at a sufficient height and distance to permit the mining of the uncovered material with the spoil bank well clear of the work. By a single operation these shovels take the overburden from the bank on the one side and deposit it far enough over on the other side to eliminate the extra expense of re-handling, as would otherwise be necessary.

When opening up a new field this shovel is capable of digging a thorough cut and depositing the excavated overburden all on one side within the limit of its reach. After the thorough cut is somewhat advanced, the uncovered material can be removed so that when a shovel completes the cut it can return on another, this time depositing the overburden in the excavated space where the material has been taken out. By this method a wider cut can be made the second time on account of there

sure. The entire equipment is propelled by power from the main engine.

In the manufacture of this machinery the Marion Steam Shovel Co. makes all the parts entering into the construction. This requires the operation of basic open-hearth and manganese steel plants, and all materials are carefully tested before being used.

Niagara Wall Ties.

The Niagara wall ties made as in the illustration shown herewith are one-half inch wide by seven and one-half inches long, made of galvanized steel, and are guaranteed to have an average breaking strain of 1000 pounds each. They are manufactured by the Niagara Falls Stamping Works, Niagara Falls, N. Y. It is claimed that they cannot be displaced without starting the surrounding structural material, and when embedded in mortar an initial movement is practi-



THE MARION REVOLVING STEAM SHOVEL.

being more room, and, as the machine revolves in a complete circle, it is only necessary to shift the track for it to work on when returning. Another advantage claimed for this type of shovel is that it will handle overburden to a great depth and with a wide face. It is simple in design, and is said to be easily controlled.

With the exception of dipper handle and housing, the "Model 250" revolving steam shovel is of all-steel construction. General bearing surfaces have been provided with ample means of lubrication. Hammered steel shafting is used throughout. The principle castings, except the engines, are basic open-hearth steel. The important gears and pinions have machine-cut teeth. The shovel revolves in either direction. The standard size dipper for this shovel is 3½ cubic yards, the radius of the boom from pivotal center is 66 feet, and the height of dump above the rail is

cally impossible without completely severing the ties. When it is considered that 10 of these ties bedded in a wall represent a resistance of 10,000 pounds against any tendency to spread, bulge or crack, their value in strengthening and stiffening a wall may be appreciated. It is claimed that their use strengthens a brick wall more than addition of one width of brick, and that a hollow wall is rendered stronger than a solid wall of the same thickness would be where they are not used. They make a solid and strong connection between facing brick and the poorer brick used for backing. They are easily bent in the middle to conform to uneven surfaces, and can be used in a space between bricks as narrow as one-eighth inch. Placed lengthwise around openings and crosswise throughout the wall, they greatly increase its strength and security.

Veneer ties seven-sixteenths of an inch



NIAGARA GALVANIZED STEEL WALL TIE.

45 feet. The boom is of the all-steel type, well trussed and braced; it is pin connected to step castings resting on the two inner sills of the rotating frame immediately over the roller path, thus transmitting all strain directly to the truck frame.

The dipper handle is of a combination steel and oak type, both sides of each member being armored with steel plates and covered top and bottom with heavy steel bars. An end socket casting is secured to the handle and pin connected to the dipper back, thus allowing the pitch of the dipper to be changed to suit the work on which the shovel is engaged. The entire front of the dipper is a one-piece manganese steel casting that extends from the top to the bottom and well around the corners, where it is riveted to the steel side plates. The boilers are of the locomotive type, designed for 150 pounds pres-

sure. The entire equipment is propelled by power from the main engine. They are bent at the end, and have a hole punched ready for nailing to the ceiling. Bedded in mortar, they are practically immovable within the breaking strain.

A folder issued by the company describes these and other specialties for buildings, including Niagara galvanized wall plugs, Niagara all-steel sash pulleys, Niagara all-steel sash fixtures, "Premax" steel sash chains and galvanized wall ties for block walls.

This company has recently completed a large addition to its factory, and at the request of some of the employees who have been with it for many years, a large two-story flat building has been erected near the property to accommodate their families.

Construction Department

TO OUR READERS!

In order to follow up properly the Construction Department items, please bear in mind the following statements:

EXPLANATORY

The MANUFACTURERS RECORD seeks to verify the items reported in its Construction Department by full investigation. It is often impossible to do this before the item must be printed or else lose its value as news, and in some items it is found advisable to make statements as "it is reported" or "rumored," and not as positive information. If our readers will note these points they will see the necessity of the discrimination. We are always glad to have our attention called to errors that may occur.

HOW TO ADDRESS

The name of one or more incorporators of a newly incorporated enterprise should always be shown on letter addressed to the official headquarters or to the town of the parties sought, as may be shown in the item. Sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. By following these general directions the postoffice will be enabled to deliver your mail promptly, although it is inevitable that some failure by the postal authorities to deliver mail to new concerns will occur.

WRITE PERSONAL LETTERS

In communicating with individuals and firms reported in these columns a letter written specifically about the matter reported will receive better and quicker attention than a circular. In most instances a return postal card or addressed and stamped envelope should be enclosed with letter.

In correspondence relating to information published in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

The Daily Bulletin of the Manufacturers Record is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invaluable to manufacturers, contractors, engineers and all others who want to get in touch at the earliest moment with new undertakings, or the enlargement of established enterprises. The subscription price is \$25 per year. On all advertising contracts in the Manufacturers Record for three months or longer a subscription to the Daily Bulletin is included for the contract period.

BRIDGES, CULVERTS, VIADUCTS

Ala., Jasper.—Gulf, Florida & Alabama Railway Co., Roy C. Mezargel, president, 5 Nassau St., New York, will construct draw-bridges over Warrior and Alabama rivers.

Ark., Heber Springs.—Cleburne County Bridge Commissioners will be ready after 30 days to adopt plans for construction of bridge; location not decided; W. L. Thompson and Dr. O. T. Ward of Wolf Bayou, Ark., members of commission. (Recently noted to have authorized expenditure of \$15,000.)

Ark., Lake City.—Chalghead County Commissioners appropriated \$50,000 for construction of steel bridge across St. Francis River; plans and specifications prepared; bids to be invited.

Ala., Mobile.—Mobile County Board of Road Commissioners instructed County Clerk to invite bids for construction of proposed bridge over Dog River; will advertise for bids on both concrete and wooden floor.

Ga., Gainesville.—Gainesville & Northwestern Railroad Co. (not yet organized—proposition being handled by Byrd-Matthews Investment Co., St. Louis, Mo.) will erect bridge over Chattahoochee River in connection with proposed 35-mile railroad from Gainesville to timber tract which was previously noted under "Lumber Manufacturing." (See "Lumber Manufacturing.")

Ga., Greensboro.—Greene county will vote December 7 on \$75,000 bond issue for construction of steel bridges over Oconee River

and smaller streams and for road improvements. Address County Commissioner. (Recently mentioned.)

Ky., Louisville.—Asher Coal Co., T. J. Asher, president, will, it is reported, erect trestle and shed at 115 Charlton St.; estimated cost, \$60,000.

La., Charenton.—Iberia, St. Mary & Eastern Railroad, F. M. Welch, president, New Iberia, La., will construct bridge over Bayou Teche at Charenton.

La., Jena.—F. W. Green, Stamps, Ark., general manager Louisiana & Arkansas Railway, states contract for bridges over Little River and Black River was let by Waddell & Harrington, consulting engineers, Kansas City, Mo., to Union Bridge & Construction Co. of Kansas City; present extension of railroad is from Jena to Jonesville, La., not from Mena, Ark., to Vidalia, La., as recently stated.

Md., Baltimore.—City and Baltimore County Commissioners are considering construction of viaduct connecting West and Druid Hill Parks. (See "Road and Street Work.")

Mo., Kansas City.—Board of Public Works awarded contract to Joseph H. Stone of Kansas City at \$10,565 to construct bridge over Brush Creek at Wornall Rd.; ornamental reinforced concrete arch construction; Waddell & Harrington, consulting engineers, Kansas City. (Call for bids lately noted.)

Mo., Sheffield, Station Kansas City.—Kansas City Terminal Railway Co. awarded contract to Missouri Valley Bridge & Iron Co., Leavenworth, Kans., to construct concrete piers and abutments for proposed steel bridge across Blue River at Sheffield; cost about \$30,000.

Mo., St. Louis.—Board of Public Improvements, L. B. Bowen, bridge engineer, will construct reinforced concrete viaduct at 12th St.; 80 feet wide, 2050 feet long; bent and girder construction; estimated cost \$376,000; Columbia Ave. bridge over Oak Hill Railway; reinforced concrete; 60 feet wide, 143 feet long; beams and slabs to be cast before erection; estimated cost \$15,000; King's highway southeast over Broadway; reinforced concrete arch; 60 feet wide, 400 feet long; estimated cost \$50,000; King's highway into Carondelet Park; 60 feet wide, 505 feet long; estimated cost \$28,000; bids will be advertised; plans and specifications on file in office of president of Board of Public Improvements two weeks prior to letting contracts, which will probably be early in spring.

N. C., Castle Haynes.—New Hanover County Commissioners, Wilmington, N. C., and Pender County Commissioners, Burgaw, N. C., will receive bids until noon December 6 for construction of steel bridge over Northeast River at Castle Haynes; certified check, \$2500; cost \$30,000 to \$40,000.

N. C., Winston-Salem.—Winston-Salem Southbound Railway Co., H. E. Fries, president, Winston-Salem, contemplates constructing bridge.

S. C., Anderson.—B. J. Pearman, County Supervisor, received from W. H. Shearer, engineer, estimate of cost of erecting bridge over Savannah River at or near Brown's Ferry; structure is to be 480 feet long; main span crossing river to be 450 feet; 22 feet in clear; total live load, 150 pounds to square foot; steel construction; concrete piers; oak floor to be 300 feet above low-water mark; estimated cost, \$37,500; structure to be constructed jointly by Anderson county, S. C., and Hart county, Ga. (Recently mentioned.)

S. C., Rock Hill.—Southern Railway, B. Herman, chief engineer, 1300 Pennsylvania Ave. N. W., Washington, D. C., contemplates, it is reported, construction of concrete bridge over tracks on Oakland Ave.; cost about \$10,000.

Tenn., Manchester.—Coffee County Commissioners awarded contract to Nashville (Tenn.) Bridge Co. to construct steel bridge to replace wooden bridge across Little Duck River.

Tex., Fort Worth.—Tarrant county will vote December 5 on \$600,000 bond issue for construction of four bridges, including structure across Main St. connecting city proper and North Side, estimated to cost \$350,000; another over Trinity River at Riverside, and one at Samuels Ave. estimated to cost \$72,000; Hedrick & Cochran, consulting engineers, Kansas City, Mo., prepared plans. Address County Commissioners. (Date of election postponed from November 25, as lately stated.)

Va., Wise.—Wise County Supervisors awarded contract to Roanoke (Va.) Bridge Co. to construct 26 bridges, to have 87, 70, 54, 50, 40 and 30-foot spans; steel trusses on masonry; cost \$24,000; completion by May 1. (Call for bids lately noted.)

Va., Hanover.—Hanover county will construct bridge across Chickahominy River, between Hanover and Henrico counties; 95 feet long; 12-foot roadway; reinforced concrete; bids received until November 11; P. St. J. Wilson, State Highway Commissioner, Richmond, Va. (See "Machinery Wanted.")

CANNING AND PACKING PLANTS

Ala., Cuba.—McConnell Canning Co. is reorganization of Cuba Canning Co.; J. A. McConnell, president; A. J. McElvay, vice-president; A. C. Lewis, secretary-treasurer; will resume operation of cannery at once. (Recently noted.)

Ala., Grand Bay.—Grand Bay Canning Co. incorporated with \$16,000 capital stock; L. B. Wright, president, Grand Bay; W. G. Mitchell, vice-president, Chicago, Ill.; Abraham Privat, secretary and treasurer, Chicago, Ill.; will manufacture syrups, can fruits, vegetables, etc.

Fla., Tampa.—Peru Canning Co., Peru, Ind., will, it is reported, establish cannery.

Tenn., Culleoka.—Culleoka Produce Co. will establish packing plant; awarded contract for erection of buildings.

Tex., Cuero.—Cuero Packing Co. increased capital stock from \$10,000 to \$20,000.

CLAYWORKING PLANTS

Ga., Atlanta.—Paving Tile.—Atlanta Cement Products Co. incorporated with \$5000 capital stock by Jesse B. Lee and others to manufacture paving tile, etc. (See "Concrete and Cement Plants.")

Tenn., Clarksville.—Tile, etc.—Cumberland Concrete Construction Co., T. D. Johnson, Jr., manager, Box 342, will erect plant to manufacture tile, etc. (See "Concrete and Cement Plants.")

Tenn., Kingsport.—Sewer Pipe, etc.—Kingsport Brick Co., Johnson City, Tenn., reported to double capacity of Kingsport plant and install machinery to manufacture sewer pipe and drain tile.

Tex., Bowie.—Brick, etc.—Chamber of Commerce is interested in organization of company to establish plant to manufacture vitrified brick and roofing tile.

COAL MINES AND COKE OVENS

Ky., Barbourville.—Black Mountain Coal Co. organized by Samuel Bennett and others; will develop coal mines in Harlan county; reported to have acquired 5000 acres along Brush Creek.

Ky., Lexington.—Cambria Coal & Lumber Co. incorporated with \$500,000 capital stock by T. T. Forman of Lexington, Charles S. Ling, B. F. Price and A. P. Stephens, all of Johnstown, Pa., and others; will lease, purchase and develop coal, coke, timber, oil and mineral lands. Mr. Price advises Manufacturers Record that lands in which he is interested in Eastern Kentucky are undeveloped and immediate development is not contemplated; are virgin timber forests, with opened coal veins, but no mines; recent purchase in which he has assisted comprises about 43,000 acres. Advice from Mr. Forman (is legal representative and stockholder) states those interested are Messrs. S. H. Cauffiel, Chas. S. Ling, B. F. Price, A. P. Stephens and Geo. W. Reese of Johnstown, Pa.; J. J. Dougherty of Connersville, and himself; same capitalists are interested in Knott County Coal & Lumber Co. (previously noted incorporated with \$250,000 capital stock), and Kentucky Land & Improvement Co., which owns lands in Magoffin county; Cambria company has about 67,000 acres of land in Perry county; present development not completed. Total holdings of companies and individuals interested are estimated at 175,000 acres.

Ky., Mount Morgan, P. O. Williamsburg.—Mount Morgan Coal Co. contemplates making improvements to coal-mining plant.

Tenn., Chattanooga.—Patten Coal Mining Co. incorporated with \$100,000 capital stock by John E. Patten, J. R. Barnes, B. D. Turman and others.

W. Va., Charleston.—Southern Collieries Company incorporated with \$100,000 capital stock by T. A. Leyshorn of Quick, W. Va.;

W. G. MacCorkle, S. B. Chilton, S. Hess and T. S. Clark, all of Charleston.

W. Va., Dola.—Short Line Coal Co., Chas. Heyer, secretary and treasurer, Penn Square Bldg., Philadelphia, Pa., will increase power plant at Dola mines. (See "Machinery Wanted.")

CONCRETE AND CEMENT PLANTS

Ga., Atlanta.—Concrete Products.—Atlanta Cement Products Co. incorporated with \$5000 capital stock by Jesse B. Lee, Jesse G. Flournoy and John W. Lee; will manufacture paving tile and concrete products.

Tenn., Clarksville.—Concrete Blocks, etc.—Cumberland Concrete Construction Co., Box 342 (recently reported incorporated under "Miscellaneous Enterprises" with \$5000 capital stock), will erect 60x24-foot building; machinery will include concrete brick and block presses, rock crusher, tile molds, etc.; daily capacity, 10,000 concrete bricks and 2000 concrete blocks; J. F. Gracey, Jr., president and secretary; T. D. Johnson, Jr., vice-president and manager. (See "Machinery Wanted.")

COTTON COMPRESSES AND GINS

Ga., Albany.—Atlantic Compress Co., W. W. Robertson, general manager, will erect cotton compress; building to be 500x200 feet and accommodate 20,000 bales.

Ga., Concord.—Concord Variety Works, J. H. Lee, president, will reorganize company next spring and rebuild gin reported burned and cotton warehouse at cost of \$10,000.

Ga., Cochran.—Avery Horne will rebuild cotton gin. (Recently reported burned.)

La., St. Joseph.—Joseph Curry will rebuild cotton gin recently reported burned; construction about May, 1912.

Tex., Alvin.—Alvin Gin Co. incorporated with \$4000 capital stock by W. L. Browning, S. Jones, E. L. Long and others.

Tex., Bay City.—James W. Rugely Company incorporated with \$14,000 capital stock by James W. Rugely, H. W. Bates and O. J. Doubeck.

Tex., Rockport.—Commercial Club is interested in erection of cotton gin.

DRAINAGE AND IRRIGATION

La., Crowley.—Commissioners Sixth Ward and Crowley Drainage District, H. E. Lewis, president, awarded contract to D. H. Gore, New Orleans, La., to conduct drainage canals; about 41 miles of open ditch from 16 to 40 feet wide and from 2 to 6 feet deep; about 90 acres of clearing; 600,000 cubic yards excavation; about \$75,000 available; W. S. White, engineer. (Recently mentioned.)

La., New Orleans.—Bayou Cane Land Co., 632 Gravier St., incorporated with \$25,000 capital stock by E. P. Grady, O. W. Crawford and Meyer Elsmann to reclaim 4416 acres of land in Terrebonne parish; canals, laterals, pumping station; cost \$100,000; will open construction proposals about January 15; John A. Kruse Engineering Co., Iberia Bank Bldg., New Orleans, engineer. (See "Machinery Wanted.")

Mo., Atherton.—Blue Bottoms Levee District of Jackson County will construct levee to protect about 2000 acres from overflow. Address County Commissioners, Independence, Mo.

Okla., McComb.—Commissioners Little River Drainage District are arranging for construction of proposed drainage system to reclaim about 18,000 acres land subject to overflow; main canal to be 23 miles; several miles of laterals; contract awarded to R. H. & G. A. McWilliams of Chicago and Walnut, Ill.; estimated cost \$283,000.

Tex., Bay City.—Matagorda county will vote on bond issue for drainage system. Address Drainage Commissioners.

Tex., Cotulla.—J. R. Black and W. H. Millikin awarded contract for construction of reinforced-concrete dam and reservoir on Neuces River to impound flood waters; dam will be 25 feet high and 350 feet long; lake will be about 16 miles long and hold sufficient water to irrigate about 12,000 acres; Bartlett & Manney, engineers, San Antonio, Tex. (Call for bids lately noted.)

Tex., Rio Medina.—Medina Irrigation Co., 530 E. Houston St., San Antonio, Tex., awarded contract, it is reported, to Roach & Stansell, Memphis, Tenn., at about \$850,000 to construct 12 sections of irrigation system

to supply water to about 60,000 acres of arid lands in Medina county; canal will begin about 23 miles west of San Antonio and be about 28 miles long; canals to have bottom widths of 20 feet in level ground, 15 feet in side-hill work, 10 feet in concrete-lined channels; include about 1,400,000 cubic yards classified excavation material, two reinforced concrete siphons, concrete culverts, flume approaches and bridge crossings; New York office, twentieth floor, 25 Broad St. (Call for bids lately noted.)

ELECTRIC PLANTS

Ark., Earle.—Earle Public Service Co., 528 Randolph Bldg., Memphis, Tenn., purchased electric-light plant at cost of \$40,000 and will develop 300 horse-power; machinery will be installed and improvements and extensions made as needed; George Company, Randolph Bldg., Memphis, Tenn., engineer in charge.

Ark., Gravette.—City will construct electric-light plant. Address The Mayor.

Ark., Murfreesboro.—E. L. Timmons, Shawnee, Okla., is considering establishment of electric-light plant.

Fla., Taylorsville.—Edge-Dowling Lumber Co., J. Ray Arnold, manager, will install electric plant and erect ice factory.

Ga., Atlanta.—City contemplates extension of White Way electric-light system along Forsyth, from Alabama to Mitchell St.; Broad St., Marietta to Mitchell St.; Walton St., Peachtree to Cone St., and blocks on Decatur St. and Edgewood and Auburn Aves. from Pryor to Peachtree St.; R. M. Clayton, chief of construction.

Ga., Macon.—Georgia Light, Power & Railways purchased Macon Railway & Light Co., Central Georgia Power Co., and will own stock of Central Georgia Gas Co. (See "Electric Plants.")

Ga., Macon.—Gas Plant.—A special dispatch to Manufacturers Record says: "Georgia Light, Power & Railways, financed by A. B. Leach & Co., 149 Broadway, New York, bought controlling interest, in fact practically all common stock of Macon Railway & Light Co., Central Georgia Power Co., and will own the stock of Central Georgia Gas Co., for which city of Macon has been asked franchise; company will also build transmission line for the power company from its present terminal in Griffin, Ga., into Atlanta; work now under way."

Ky., Somerset.—United Water & Light Co. contemplates installing additional engine in electric-light plant.

La., New Orleans.—El Salto Power Co. incorporated with \$300,000 capital stock by Monte M. Lemann and David W. Pipes, Jr.

Md., Baltimore.—City will install plant in high-pressure pipe line station on South St. for lighting and heating City Hall and courthouse; estimated cost \$70,000; H. K. McCay, City Engineer.

Miss., Laurel.—Laurel Electric Power & Light Co. incorporated with \$25,000 capital stock by P. H. Saunders, S. M. Jones and Herbert Lampe.

Mo., St. Louis.—National Light & Power Co. incorporated with \$2000 capital stock by Judson H. Boughton, W. C. Morehead and A. B. Ewing, Jr.

Mo., Lamar.—City voted \$70,000 bond issue for construction of electric-light plant and water-works. Address The Mayor.

Mo., St. Louis.—Light & Development Co. increased capital stock from \$100,000 to \$200,000.

N. C., Selma.—City will let contracts November 14 for equipment for electric-light plant improvements recently noted. Address M. C. Winston or J. N. Mitchiner. (See "Machinery Wanted.")

N. C., Enfield.—City, W. T. Clement, Mayor, receives bids until 8 P. M. December 6 for construction of proposed electric-light plant; C. E. Fairbanks, engineer, 417 American National Bank Bldg., Richmond, Va. (See "Machinery Wanted.")

Okla., Kingfisher.—City is having plans prepared by Benham Engineering Co., 812 American National Bank Bldg., Oklahoma City, Okla., for extension to electric-light plant and water-works. (Bond issue of \$20,000 previously noted voted for light and water-works.)

Okla., Ponca.—Henry A. Braun, Guthrie, Okla., contemplates installing electric-light plant.

Okla., Ponca.—City voted \$30,000 bond issue to erect electric-light plant. Address The Mayor. (Recently mentioned.)

Tenn., Chattanooga.—City contemplates installing conduit system to be rented to public-service corporations having wires in streets; A. N. Sloan, commissioner depart-

ment of streets and sewers. (See "Machinery Wanted.")

Tenn., Helena.—State Mission Board, Tennessee Baptist Convention, W. H. Runions, church builder, 710 Church St., Nashville, Tenn., contemplates construction of electric-light plant to light school building and possibly town of 800 population; operated by water-power. Address W. L. Rlogan, Helena. (See "Machinery Wanted.")

Tex., Beaumont.—Stone & Webster Engineering Corporation, 147 Milk St., Boston, Mass., will purchase, it is reported, electrical property of Beaumont Ice, Light & Refrigerating Co.

Tex., Galveston.—Isidore Newman & Son, New Orleans, La., purchased Brush Electric Light & Power Co.; contemplates reorganizing company and expending about \$300,000 for improvements.

Tex., Hamlin.—Hamlin Electric Light, Heat & Power Co. incorporated with \$10,000 capital stock by W. W. Johnson, W. S. Whaley, H. A. Knight and others.

Tenn., Trenton.—Mayor and Board of Aldermen will construct electric-light plant and water-works; bids received until November 17; previously noted to vote on \$12,000 bond issue for electric-light plant; R. C. Huston, consulting engineer, 1634 Exchange Bldg., Memphis, Tenn.; W. E. Seat, Mayor. (See "Machinery Wanted.")

Tex., Bastrop.—Bastrop Water & Light Co. awarded contract for street-lighting system, including installation of 500-candle-power lamps in business section and 100-candle-power lamps in residential section; also contemplates installation of 10-ton ice plant in connection with electric-light plant. (Recently noted.)

Va., Chatham.—Town Council awarded electric-light franchise to F. L. W. Bryant, Thomasville, N. C.; will erect plant.

W. Va., Parkersburg.—Government awarded contract to M. L. Baird Construction Co., Philadelphia, Pa., to erect power-house at dam No. 19.

FERTILIZER FACTORIES

Ala., Dothan.—Home Guano Co. incorporated with \$100,000 capital stock by Arthur Pelzer, J. R. Hanahan and M. L. Hanahan.

Ga., Hawkinsville.—Thompson Oil Mill will erect guano factory; 70x135 feet; brick.

Id., Hollidale (not a postoffice).—J. H. Connor, Pittsburg, Pa., is organizing Farmers' Fertilizer Co.; will establish fertilizer plants at Hollidale and Baltimore. (See "Mining.")

FLOUR, FEED AND MEAL MILLS

Md., Baltimore.—Husband-Flint Milling Co. incorporated with \$25,000 capital stock by George J. Kroeger (1611 Linden Ave.), Mary A. Kroeger and J. Harry C. Lauer.

Va., Brockroad.—M. Wakeman & Son will make improvements; build 30x30-foot addition; capacity to be 40 barrels flour, meal, etc.; construction by company. (Recently noted.)

FOUNDRY AND MACHINE PLANTS

Ala., Birmingham.—Pipe Works.—United States Cast Iron Pipe & Foundry Co. has begun remodeling plant of Dimmick Pipe Co. plant in North Birmingham, which it purchased some time ago; improvements are also to be made to Aniston and Bessemer works; L. R. Lemoine, 71 Broadway, New York, is president. (Recently mentioned.)

Fla., Jacksonville.—Gas Engine.—Gibbs Gas Engine Co. of Florida (reported incorporated in August with \$25,000 capital stock) states that new corporation purchased Jacksonville plant of Gibbs Gas Engine Co. of Atlanta, Ga.; officers are Geo. W. Gibbs, Jr., president; Jos. D. Weed, vice-president; H. W. Mizell, secretary-treasurer; office and salesroom, foot of Main St.; factory at South Jacksonville; manufactures Gibbs marine engine, deal in machinery and specialize in machine-shop work.

Ga., Atlanta.—Mill Equipment, etc.—Atlanta Manufacturing Co. (recently reported incorporated with \$100,000 capital stock by J. O. Bailey and others) absorbed firm of Joseph O. Bailey, engineer and machine dealer; leased building on Marietta St. containing 12,000 square feet, and will add to present plant; machinery mainly purchased; will receive bids at once on small machine-shop equipment. (See "Machinery Wanted.")

Ga., Marietta.—Cotton Gln Machinery, etc. Nofold Press & Machine Co. is being organized to manufacture cottonseed-oil; mill and cotton-gln machinery invented by one of incorporators, who are N. W. L. Brown

and M. J. Brown of Marietta and E. N. Brown of Mexico City.

Ga., Marietta.—Cotton-oil Mill Machinery, etc.—Nofold Press & Machine Co. incorporated with \$5000 capital stock by N. W. L. Brown, Marian J. Brown and others.

Mo., Kansas City.—Steel Castings.—American Dartium Steel Castings Co., 404 Finance Bldg., will establish plant with daily capacity of about five tons steel castings; Edward Richards, construction engineer and chairman of organizing committee; plans to be ready for announcement about December 1, after approval by Mr. Chenhall, consulting engineer. (Recently noted.)

Mo., St. Louis.—Machinery.—Alvey Bros Machinery Co. incorporated with \$12,000 capital stock by John A., Philip C., William F. and Hugh H. Alvey.

N. C., Winston-Salem.—Machine Shop.—Beck Machine Co. incorporated with \$25,000 capital stock by W. E. Beck, C. L. Beck, Ernest Remington and others; will install equipment in basement of building being constructed at 5th and Liberty Sts.

Tex., Temple.—Commercial Club is interested in establishment of iron foundry and machine shop.

Va., Hampton.—Gas Engine.—F. D. Cock purchased Chesapeake Gas Engine Corporation's plant at \$6250; will reorganize company and continue to operate plant.

Va., Petersburg.—Appomattox Iron & Supply Co. contemplates erecting new machine shop; 50x222 feet.

GAS AND OIL DEVELOPMENTS

Ark., Little Rock.—Pulaski Gas Light Co., E. C. Beach, general manager, Little Rock, Ark., will extend gas system and furnish Pulaski Heights with natural gas.

Ga., Ringgold.—Catoosa Oil Co. incorporated with \$500,000 capital stock; will develop oil property near Ringgold.

Ky., Paintsville.—Tom Creek Oil & Gas Co. organized with \$55,000 capital stock by John C. Mayo, Finley E. Fogg, George F. Copland and others.

Miss., Gulfport.—Security Oil Development Co., H. M. Daniel, president, will develop oil wells five miles from Gulfport; work has begun under supervision of W. A. Kenney.

Okla., Bartlesville.—Light, Oil & Gas Co. incorporated with \$5000 capital stock by John E. Groth and Charles A. Groth, both of Bartlesville, and Carl S. Leidecker, Dewey, Okla.

Okla., Blackwell.—Junction Oil & Gas Co. incorporated with \$10,000 capital stock by H. A. Sloan, E. L. Sloan, H. G. Wood, John S. Burger and others.

Okla., Checotah.—T. M. Price Oil & Gas Co. incorporated with \$3500 capital stock by T. M. Price, R. B. Robinson and R. R. Randall.

Okla., Grandfield.—Deep Red Oil Co. (recently noted incorporated with \$250,000 capital stock) is supplied with drilling machinery; contemplates purchasing pipe and casing; W. M. Stephenson, engineer in charge, 615 Praetorian Bldg., Dallas, Tex. (See "Machinery Wanted.")

Okla., Shawnee.—Owl Gas Co. incorporated with \$2000 capital stock by R. L. Hanes, M. E. Hanes and J. H. Wahl.

W. Va., Clarksburg.—Future Oil & Gas Co. incorporated with \$5000 capital stock by A. F. Nay, Mike Kost, C. B. Maple, G. B. M. Barge and others.

W. Va., Huntington.—Venora Oil & Gas Co., First National Bank Bldg., will develop oil wells; plans not determined; Milton Drilling Co. of Huntington, engineers in charge. (Recently reported incorporated with \$25,000 capital stock by J. L. Caldwell and others.)

W. Va., New Martinsville.—Anita Oil Co. incorporated with \$50,000 capital stock by C. G. Westerman, W. P. Simmons, Irvin Ober and J. E. Bartlett, all of New Martinsville, and W. H. Westerman, Butler, Pa.

W. Va., New Martinsville.—H. M. Spence, Parkersburg, W. Va., and others purchased Lowther-Kaufman Coal & Oil Co.'s properties in Calhoun county and propose development; purchase price, \$41,000.

ICE AND COLD-STORAGE PLANTS

Ark., Murfreesboro.—Charles Logsdon, Oklahoma City, Okla., contemplates establishing ice plant.

Fla., St. Augustine.—Consumers' Ice Co. incorporated with \$40,000 capital stock by Joseph T. Pacetti, William J. Sanchez, Alvarez E. Bays and S. F. Bennett.

Fla., Taylorsville.—Edge-Dowling Lumber Co., J. Ray Arnold, manager, will erect ice factory and install electric-light plant.

Ga., Decatur.—Establishment of ice and gas plants to supply Decatur, Kirkwood and Oakhurst is being considered. William S. Ansley, Atlanta, Ga., can be addressed for information.

Ky., Lexington.—James B. Haggin will erect dairy depot; four stories; stone; be equipped with refrigerating plant.

Ky., Nicholasville.—Nicholasville Ice & Cold Storage Co. organized with \$30,000 capital stock by A. Kenney and others; will build ice and cold-storage plant.

N. C., Greensboro.—Arctic Ice & Coal Co. incorporated; will acquire Dixie Ice & Coal Co., Power & Armstrong Company and Southern Ice & Coal Storage Co.; H. E. Cartland, secretary-treasurer, Athens, Tenn.; J. W. Landreth of Greensboro, business manager.

Okla., Bartlesville.—Bartlesville Ice & Cold Storage Co. (recently noted incorporated with \$50,000 capital stock) contemplates installation of ice plant of 30 to 50 tons capacity; also cold storage; James Gray, president; John E. Palmer, secretary; John C. Gray, treasurer. (See "Machinery Wanted.")

Tex., Bastrop.—Bastrop Water & Light Co. contemplates installation of 10-ton ice plant in connection with electric-light plant; to be in operation by next season. (See "Electric-light Plants.")

Tex., Bryan.—Houston Ice & Brewing Co., Houston, Tex., awarded contract to erect ice factory; machinery contract also placed. (Recently noted.)

W. Va., Charleston.—Swift & Co., Chicago, Ill., awarded contract to Moore Construction Co., Charleston, to erect building; reinforced concrete; brick trimmings; install refrigerating plant.

IRON AND STEEL PLANTS

Ala., Birmingham.—Imperial City Birmingham Brewing Co. will be incorporated with \$500,000 capital stock to establish ice plant and brewery; ice plant will have capacity of 250 tons daily; J. F. Donahoe, Woodward Bldg., is interested. (See "Miscellaneous Factories.")

Ala., Birmingham.—A special dispatch to Manufacturers Record says: "Woodward Iron Co., Woodward, Ala., purchased property of Birmingham Coal & Iron Co., including 40,000 acres of coal and 200 acres of iron-ore land and two blast furnaces. It is said Woodward company will begin at once making betterments involving large expenditures. It is understood company also acquires trackage rights over 14 miles of Atlanta, Birmingham & Atlantic Railroad between the Mulga mines and Woodward."

Ala., Montgomery.—Atlantic Ice & Coal Corporation, Atlanta, Ga., will establish ice plant; contracted for ice machine of 100 tons daily capacity. (This company recently reported as to expend \$500,000 for improvements and erection of various plants.)

Ga., Atlanta.—Atlantic Ice & Coal Corporation, E. E. Eagan, general manager, will erect ice factory, 40x100 feet, and icing sheds, 80x25 feet, at Inman Yards; 500 tons manufacturing capacity and 400 tons storage capacity; cost about \$50,000; purchased machinery for additional 200-ton capacity plant to be built at factory in center of city; building will be four stories; brick and reinforced concrete; increase daily capacity of present plant to 600 tons; also provide additional cold-storage facilities of 150,000 cubic yards; entire plant when completed will cover 330x230 feet; cost about \$100,000; these improvements provided for out of \$500,000 appropriation authorized for improvements and new plants at Atlanta, Augusta, Fort Valley, Albany, Columbus and other cities. (Further facts recently noted.)

N. C., Hillsboro.—Hillsboro Milling & Manufacturing Co. contemplates installing ice plant. (See "Machinery Wanted.")

Okla., Tulsa.—Rolling Mill.—Charles Page advises Manufacturers Record that rolling mill will be established at Sand Springs; reported that plant will manufacture structural and railroad iron and steel, using iron ore and utilizing scrap iron. Referring to this enterprise, B. F. Rice writes Manufacturers Record from Tulsa: "Mill will have 40-ton capacity; construction begins at once; further particulars later."

Va., Reusen.—Iron Furnace.—Oriskany Ore & Iron Corporation, Buena Vista, Va. (recently reported to build blast furnace), states preliminary contracts have been entered into and all contracts will probably be closed within 30 days.

LAND DEVELOPMENTS

Ala., Bay Minette.—Sibley Land Co. increased capital stock from \$25,000 to \$50,000.

Ala., Mobile.—Mobile Farm Land Co. increased capital stock from \$125,000 to \$175,000.

Ark., Helena.—Phillips County Land & Investment Co., W. S. Conner, president, increased capital stock from \$10,000 to \$20,000.

Fla., Ormond.—Dupont Railway & Land Co., in which Scranton (Pa.) capitalists are interested, purchased 30,000 acres near Ormond and will continue development. (See "Lumber Manufacturing.")

Ga., Clarksville.—Appalachian Apple Orchard will be incorporated by Louis B. Magid of Atlanta, Ga., and associates with capital stock of \$250,000 and privilege to increase to \$500,000; plans to develop 1100 acres in Rabun county and 5000 acres in Fairesham county; proposed to grow vineyards, plums, York imperial; now preparing to plant 100 acres. (Recently reported.)

La., Alexandria.—J. H. Harris, Northboro, Iowa, purchased 1600 acres in Rapides parish six miles from Alexandria; will develop for farming.

La., Carroll.—Orient Company, New Orleans, La., completed surveys to Jemmie addition, and will develop residential section.

La., New Orleans.—A special dispatch to the Manufacturers Record says: "New Orleans Lake Shore Land Co. sold to John B. King, representing McCormick Bros. of New York and Salt Lake City and associates, 640 acres reclaimed land for about \$250,000; purchasers propose to conduct company farming and orcharding in order to demonstrate wide diversity of crops reclaimed wet prairie lands will produce."

La., New Orleans.—Louisiana Farm Land Co., 622 Gravier St., incorporated with \$50,000 capital stock by O. W. Crawford, C. H. Willard and Meyer Elsemann; will develop 1250 acres of land (recently noted) in St. Tammany parish, about 35 miles from New Orleans; improvements include surveying and about five miles road building; open bids January 15; Preston Herndon, Abita Springs, La., engineer in charge. (See "Machinery Wanted.")

La., Tilden.—Tilden Land Co., E. H. Knight, president, Louisiana, Mo., is name of company recently noted as purchasing plantation near Tilden; to be divided into farms.

Md., Chevy Chase.—Chevy Chase to Great Falls Land Corporation purchased 4000 acres in Montgomery county, Maryland, extending along Potomac River from Chevy Chase to Great Falls, distance of about nine miles; plan to develop villa sites and subdivisions, construct boulevard, build electric railway connecting Chevy Chase and Great Falls, erect hotel surrounded by park of 200 acres, build clubhouse, erect stone tower and lodge at Chevy Chase terminus of boulevard, provide water, electricity and gas, sewerage, etc. reported expenditure \$3,000,000; H. Bradley Davidson of Davidson & Davidson, 1413 G St. N. W. is president; Eldridge E. Jordan, vice-president; J. S. Henry, treasurer; Arthur R. Thompson, secretary, all of Washington, D. C.; company has capital stock of \$1,500,000. (Recently mentioned under D. C., Washington.)

Miss., Enterprise.—Enterprise Fruit and Vegetable Association is being organized; secured about 1000 acres, two-thirds in timber; proposed to plant 100 acres in peach trees, 50 acres in asparagus, also cultivate apple orchards, grow various vegetables, etc.

Mo., St. Louis.—Haight Orchard & Development Co. incorporated with \$100,000 capital stock by J. H. Curran, F. J. Stuart, W. C. Connett and others.

N. C., Charlotte.—The Stephens Company (George Stephens, J. S. Myers and others) purchased 30 acres southwest of and adjoining Elizabeth College, which will be incorporated into Myers Park property and included in development plans for that suburb; entrance boulevard, to be extension of Kingston Ave., will be route of electric railway, carry gas, water and sewer mains, and be improved with curbing, cement sidewalks, 40-foot parkway through center and bitulphic or other permanent paving on each side of parkway. C. A. Conroy of Cambridge, Mass., will survey tract to conform to balance of property; Mr. Conroy is assistant of John Nolan, 1382 Harvard Square, Cambridge, Mass., who designed general landscape plan of Myers Park. (Particulars regarding Myers Park development recently noted.)

N. C., Lake Toxaway.—E. H. Jennings, president Colonial Trust Co., Pittsburg, Pa., purchased control of Toxaway Company properties; comprise 150 acres in Transylvania county on which are three hotels, three lakes, etc.; engineers are making surveys for road about 20 miles long to be constructed around Lake Toxaway; sand clay construction with uniform width of 24 feet; portion of water-power on property to be utilized; machinery

ordered for development of about 300 horsepower; distributing plant to be built and entire property, including buildings and grounds, wired for electric lights; proposed to have chain of incandescent lights around lake; contract awarded for rebuilding burned laundry; other improvements will include cottages for guests and nine-link golf course; in central location on links it is planned to erect 20-room clubhouse; E. F. Gillespie of Brevard has contract to remodel Toxaway Inn, betterments to include 40 new bathrooms, tile flooring in kitchen, installation of electrical cooking apparatus, etc.; estimated expenditure, \$250,000.

N. C., Tryon.—Hoke-Hill Real Estate & Investment Co. incorporated with \$15,000 capital stock (not \$50,000, as recently reported); will develop 6000 acres of land in Polk, Henderson and Rutherford counties, North Carolina, and Spartanburg, Greenville, Anderson and Oconee counties, South Carolina; character of development not determined; L. M. Hoke, president; A. L. Hill, vice-president; W. B. Hellen, secretary-treasurer.

N. C., Marion.—Yancey Bros. are interested in development of residential park and water-power plant.

South Carolina.—Hoke-Hill Real Estate & Investment Co., L. M. Hoke, president, Tryon, N. C., will develop 6000 acres of land in Spartanburg, Greenville, Anderson and Oconee counties, S. C., and Polk, Henderson and Rutherford counties, N. C. (See Tryon, N. C.)

S. C., Laurens.—Southern Land & Development Co. incorporated with \$30,000 capital stock by N. B. Dial, J. R. Minter, J. T.

Otter River and will develop; capital stock \$10,000; further information not available at present.

W. Va., Wheeling.—Norton & Co. will divide Hervey property into lots; awarded contract to Stringer & Stringer to construct sewer from National Pike to creek.

LUMBER MANUFACTURING

Ala., Winston County.—W. R. Hutton, Huntsville, Ala., and associates purchased timber rights on land in Winston, Lawrence and Franklin counties; purchase price, \$80,000. Mr. Hutton wires Manufacturers Record: "No details ready for publication."

Ark., McCrory.—H. A. Langton & Co. will rebuild burned sawmill.

Fla., Ormond.—Dupont Railway & Land Co., in which Scranton (Pa.) capitalists are interested, purchased 30,000 acres in St. Johns and Volusia counties, including town of Dupont, turpentine plants, sawmills, brickkilns, 400-acre plantation in state of cultivation, etc.; purchase price \$350,000 to \$500,000; purchasers propose to continue development work on more extensive scale, for which about \$150,000 will be expended; improvements will include drilling of additional wells to furnish irrigation for entire property; Tippecanoe Securities Co. of Scranton, Pa., V. W. B. Hedgepeth, vice-president and secretary, has taken possession of the property, and wires Manufacturers Record: "Present development will be lumber and by-products, turpentine, resin, etc."

Ga., Baker County.—Babcock Lumber Co., Babcock, Ga., purchased 2000 acres of pine

N. C., Westminster (not a postoffice).—McCabe Lumber Co., Warren, Pa., purchased 1600 acres timber land near Westminster; reported to operate.

S. C., Florence.—Munn Lumber Co. incorporated with \$5000 capital stock by D. H. Munn, J. F. McBride and J. R. Shipman.

Va., Richmond.—Flat Creek Lumber Co., Commonwealth Bank Bldg. (P. O. Box 542), incorporated with \$50,000 capital stock; F. J. Craigie, Jr., president; J. H. Harding, vice-president; Irving E. Campbell, secretary-treasurer; will locate sawmills in Virginia; manufacture rough lumber, laths, etc.; daily capacity 50,000 feet; some machinery contracted for; will further consider sawmills, lath and excelsior mills; will erect sawmill sheds. (See "Machinery Wanted.")

METAL-WORKING PLANTS

Fla., Jacksonville.—Corrugated-Iron Culverts, etc.—Florida Metal Products Co. is being organized to establish plant for manufacturing corrugated-iron culverts. Board of Trade is interested.

Fla., Jacksonville.—Metal Products.—J. P. Campbell leased additional space in McLaurin Bldg. on Bay St. and will equip third floor with machinery to manufacture metal products, including tanks.

Fla., Jacksonville.—Metal Products.—H. L. Ford, Greensboro, N. C., contemplates establishing metal products plant.

Mo., St. Louis.—Metal Weather Strips.—Monarch Metal Weather Strip Co., 7949 Forest Park Blvd., purchased site 17x50 feet to erect two-story brick factory building to cover entire lot; one side wall will be of metal sash and wire glass; install equipment for manufacturing zinc, copper and bronze weather strips; cost about \$11,000; Alfred M. Lane is president.

MINING

Ala., Birmingham.—W. C. Wood is securing options on property near Woodward Land Co.'s properties for New York company. Mr. Wood telegraphs Manufacturers Record: "Have option on 115 acres in 'Crooks' land, and have promise of all I want in Lipscomb."

Ala., Birmingham.—Iron, etc.—Woodward Iron Co., Woodward, Ala., purchased property of Birmingham Coal & Iron Co. (See "Iron and Steel.")

Ala., Heflin.—Gold.—Clear Creek Gold Mining Co. organized with E. E. May, president; A. B. Harris, vice president; J. D. Seruggs, secretary-treasurer, and T. J. Works, mining engineer—all of Birmingham, Ala.; owns 200 acres said to contain gold deposits in Araba-cochee district, 100 miles from Birmingham, and will further develop mines; will install \$10,000 worth of new mining machinery; main offices at mines; branch offices in First National Bank Bldg., Birmingham, Ala.

Ala., St. Clair County.—Iron.—Mitchell Mountain Iron Ore Co. incorporated with \$100,000 capital stock by Dr. E. J. Spratling, Empire Bldg., and R. P. Jones, Equitable Bldg., both of Atlanta, Ga.; Thomas Berry and D. B. Hamilton, Jr., of Rome, Ga.; contemplates development of iron-ore holdings in St. Clair county.

Mo., Galena.—Ball & Gunning, Webb City, Mo., purchased Prudential tract and will develop mines.

Ga., Marietta.—Marble.—James M. France will develop marble deposits; work begun.

Mo., Galena.—A. M. Gaines will lease North Empire mining tract and will, it is reported, install pumps for pumping surplus water.

Md., Hallowfield (not a postoffice).—Potash.—J. H. Connor, Pittsburgh, Pa., reports that he is organizing Farmers' Fertilizer Co. of America with capital stock of \$10,000,000 to develop potash deposits and establish fertilizer plants at various points in United States. Mr. Connor states machinery has already been purchased for initial plant at Hallowfield and that he will also establish fertilizer plant in Baltimore and develop phosphate lands in Florida and Tennessee.

Mo., Carthage.—Nannie M. Mining Co. incorporated with \$8000 capital stock by W. H. McAloy, George W. Moore, H. B. Jones, W. E. McMechan and others.

Mo., Webb City.—Bertha A. Mining Co. incorporated with \$10,000 capital stock by J. J. Anderson, Thomas Douglass, T. H. Walker and others; has lease on 40 acres on which are 250-ton concentrating plant and another milling plant, which will be remodeled; also contemplates making other improvements; mining operations begun. Mr. Walker is manager.

N. C., Concord.—Gold.—McCullough & Co.

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Johnson, E. P. Minter, J. E. Minter and B. A. Sullivan; reported that company purchased 17,000 acres of land at McBee, in Chesterfield county, for about \$100,000 and will divide into lots and tracts.

Tenn., Knoxville.—Harlan Town Co. incorporated with \$35,000 capital stock by J. K. Griffin, W. R. Griffin, B. A. Morton, C. H. Baker and L. M. G. Baker.

Tex., Beaumont.—City will vote again on \$60,000 bond issue for park purposes. Address The Mayor. (Election previously reported was illegal.)

Tex., Dalworth (P. O. Grand Prairie).—Dalworth Company acquired 150 acres land in Tarrant county adjoining Dalworth townsite; to be called "Dalworth Gardens"; graded and supplied with artesian water and natural gas; also acquired 75 acres on east side of townsite; since October 15 12 residences under construction at cost of \$36,000.

Tex., San Antonio.—Monarch Plantation Co. incorporated with \$10,000 capital stock by E. R. Smart, M. B. Graham and W. L. Cory.

Tex., South Houston.—South Texas Mortgage Co., S. F. Carter Bldg. (recently noted) to develop demonstration and experimental farm, is capitalized at \$300,000; will develop 40 acres; R. P. Christian, president; H. Amberg, vice-president; E. T. Dickson, secretary-treasurer.

Va., Harrisonburg.—Rose Hill Orchard Co. incorporated with \$5000 capital stock; F. L. Sublett, president; W. L. Dechert, secretary.

Va., Otter River.—W. Frank Bowman, Altavista, Va., purchased 40 acres of land near

timber land in Baker county for \$75,000; main office, Pittsburg, Pa.

Ga., Gainesville.—Byrd-Matthews Investment Co., R. M. McCombs, president National Bank of Commerce Bldg., St. Louis, Mo., states that three large sawmills will be in operation as soon as can be built; company and associates own 150,000 acres virgin hardwood timber in Northern Georgia, the railroad company (previously stated to be separate company) now proceeding with railroad construction. (See "Bridges, Culverts, Viaducts" and "Machinery Wanted.")

Ga., Rays Mill.—Luckie Lumber Co. purchased timber land additional to 2000 acres already owned; company wires Manufacturers Record as follows: "Purchased \$65,000 worth additional yellow pine timber, 3000 acres."

Ky., Lexington.—Cambria Coal & Lumber Co. incorporated with \$500,000 capital stock by T. T. Forman and others; no immediate development contemplated. (See "Coal Mines and Coke Ovens.")

La., Vidalia.—D. K. Jeffries & Co., Chicago, Ill., contemplate erecting additional band-saw mill.

Miss., Coral.—Carruth Lumber Co. purchased 2800 acres timber land for development; purchase price, \$40 to \$50 per acre.

N. C., Fero (not a postoffice).—Rabb-Tilley Company, Lenoir, N. C., reported as having purchased 800 acres timber land for development.

N. C., Sevier (not a postoffice).—Southern States Lumber Co., Concord, N. C., purchased timber near Sevier; will install sawmill.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

of New York will, it is reported, resume operation of Pioneer Mills gold mines.

Okla., Davis-Zinc.—United Mining & Milling Co., C. C. Surber, president, Independence, Kans., will develop 130 acres of zinc property; daily output, six tons of zinc concentrates; cost of mill, \$20,000; machinery installed; may construct larger plant later. (Recently noted to increase capacity of mill.)

Okla., Muskogee.—The Gould Company, 507 Equity Bldg., elected Chas. N. Gould (address, Box 1154, Muskogee) president, J. M. Postelle vice-president and manager, Clarence B. Douglas secretary, Fred P. Brausen treasurer; acreage not definite. (Recently noted incorporated with \$100,000 capital stock to develop mineral properties.)

Tenn., Chattanooga-Copper.—Axley Copper Co., W. W. Axley, president, will arrange for active development of its copper properties in Ducktown region of East Tennessee and North Carolina.

Tenn., Cleveland-Kaolin.—Manganese, etc. English capitalists, it is reported, are negotiating with J. H. Artz of Cleveland for purchase of about 800 acres of land containing kaolin and manganese deposits. Also reported that same parties contemplate purchase of large tracts of coal, iron and manganese lands in Tennessee.

MISCELLANEOUS CONSTRUCTION

Fla., Pensacola-Retaining Wall and Piers. Gulf, Florida & Alabama Railway Co., Roy G. Megargel, president, 5 Nassau St., New York, will construct concrete retaining wall at shore line, 30 feet water depth; also three piers extending from wall 600 feet long and 100 feet wide; fill solid back of retaining wall about 1500 feet long by 1000 feet wide; George A. Berry, chief engineer, Pensacola.

Fla., New Smyrna-Dredging.—Laws & Lovejoy will expend \$6000 in dredging 33,000 cubic yards of earth fill along seawall; D. D. & C. M. Rogers, engineers, Daytona, Fla. (Recently noted to receive bids until November 20.)

Ky., Hickman-Monumental Arch.—Private Robert Tyler Chapter United Daughters of the Confederacy awarded contract to McNell Monument Co., Columbia, Tenn., at \$10,000 to erect monumental arch.

Md., Port Covington (not a postoffice).—Western Maryland Railway awarded contract to Sanford & Brooks Company, 24 Commerce St., Baltimore, Md., to construct open merchandise pier at Port Covington. (Previously mentioned.)

Mo., Kansas City-Levee.—City will construct dike and drain lowlands along Missouri River front from Broadway to point on Big Blue River, near Chicago, Milwaukee & St. Paul elevator, about two miles; piles and willow mats will form foundation; reclaim about 60 acres; levee will be built upon dike at cost of about \$300,000, which will be paid for by city only; about 2200 acres estimated to be protected from overflow; total estimated cost \$700,000; S. Waters Fox, special engineer engaged by city, is preparing plans.

Mo., Kansas City-Retaining Walls.—Kansas City Terminal Railway Co. will expend \$25,000 to construct 1100 linear feet of reinforced concrete retaining walls; John V. Hanna, engineer in charge; contract recently noted awarded to William P. Carmichael Company, Kansas City.

S. C., Charleston-Dredging.—United States Government awarded contract to Simons-Mayrant Company (recently noted as lowest bidder), Charleston, for dredging channel between Charleston and McClellanville, S. C.; 60 feet bottom depth and 4 feet depth at mean low water; cost \$40,000; Major G. P. Howell, Corps of Engineers, United States Army.

Tex., Austin-Levee.—Bids invited for construction of 2½ miles of levee. For further information address P. O. Box No. 2. (See "Machinery Wanted.")

MISCELLANEOUS ENTERPRISES

Ga., Atlanta-Crematory.—City contemplates purchase of 250 acres on Entrenchment Creek as site for proposed garbage crematories; \$50,000 bond issue available. R. M. Clayton, chief of construction.

Ga., Waycross.—Southeastern Construction Co. incorporated with \$100,000 capital stock by George W. Deen, L. J. Cooper, J. L. Sweet and W. W. Lambdin; will undertake general construction work, especially in connection with building street and suburban railway system in Waycross.

Ky., Louisville-Coal.—Asher Coal Agency, L. A. Shafer, manager, will erect coal trest-

le; one story; frame; cost \$6500; contract awarded and lumber supplied.

Ky., Louisville-Electrical.—Union Electrical Co. incorporated by H. F. Karwiese, E. C. Whitener and E. C. Dontrick.

Ky., Louisville-Vulcanizing.—Enterprise Vulcanizing Co. incorporated by Charles P. Pruitt, John J. Moran and Michael C. Moran.

La., Mandeville-Steamboat Company.—Mandeville Steamboat Co., W. B. Lancaster, president, 347 Carondelet St., New Orleans, La. (recently noted incorporated with \$100,000 capital stock), will operate boat line on Lake Pontchartrain between Mandeville and New Orleans. (See "Machinery Wanted.")

La., New Orleans-Transportation.—St. Louis Steel Barge Co. purchased Mississippi Valley Transportation Co.; will enlarge present fleet.

Little Rock-Publishing.—Arkansas Farmer & Homestead Co. incorporated with \$25,000 capital stock; will publish monthly farm journal; J. W. Booth, president; John C. Small secretary, and M. E. Small, treasurer.

Md., Baltimore-Musical Instruments.—American Auto Music Co. incorporated with \$50,000 capital stock by Wallace McWilliams, Maryland Savings Bank Bldg., Baltimore; J. Lindsay Clark, Towson, Md., and others.

Mo., Kansas City-Optical Company.—H. H. Watts Optical Co. incorporated with \$15,000 capital stock by H. H. Watts, Charles A. Jarvis and John M. Cleary.

Mo., Morrison-Elevator.—Farmers' Elevator Co. incorporated with \$10,000 capital stock by Joseph A. Speckhals, John H. Starke, W. S. Toedman and others.

Mo., St. Louis-Hauling.—Charles Quade Coal & Hauling Co. incorporated with \$5000 capital stock by Minnie Buechler, Lillie Razdom, Ida, Sophie, Charles and Clara Quade.

N. C., Brevard-Laundry.—E. H. Jennings, president Colonial Trust Co., Pittsburg, Pa., will rebuild burned laundry; contract awarded. (See "Land Developments.")

N. C., Wake Forest-Publishing.—W. N. Keener, editor Apex Journal, Apex, N. C., will publish weekly newspaper at Wake Forest.

S. C., Union-Laundry.—Union Steam Laundry, Irvin Allen, manager, will erect steam laundry; 25x80 feet; ordinary construction; cost of machinery \$4000.

Tenn., Cordova-Building.—Cordova Building Co. incorporated with \$50,000 capital stock by Martin Isele, Joseph Isele, Albert Isele and J. W. Canada.

Tenn., Nashville-Hardware.—Union Hardware Co. incorporated with \$20,000 capital stock by Arthur C. Brenst, William H. Buchanan, C. C. Paris and others.

Tenn., Harriman-Creosoting.—Samuel Cabot, Inc., Boston, Mass., awarded contract to George T. Hood to erect creosoting plant; cost \$50,000. (Lately noted.)

Tex., San Benito-Precooling.—Intermittent Vacuum Precooling Co. will erect vacuum precooling plant; Eugene MacComas, secretary-treasurer Intermittent Vacuum Precooling Co., Chicago, Ill., and C. E. Bowron of same company are in San Benito arranging for erection of buildings; machinery purchased. (Company recently reported incorporated with \$60,000 capital stock by C. B. Rodgers and others.)

Va., Norfolk-Coal and Wood.—George W. Taylor & Co. incorporated with \$100,000 capital stock; W. H. Taylor, president; P. M. Prescott, Jr., vice-president, and George D. Taylor, secretary.

Va., Richmond-Publishing.—Brooke Publishing Co. incorporated with \$50,000 capital stock; J. Lightfoot Brooke, president; J. L. De Treville, secretary-treasurer; Joseph Thonet, general manager; product, daily commercial publications.

Va., Richmond-Heating and Contracting.—Commonwealth Heating & Contracting Co. incorporated with \$10,000 capital stock; Jay W. Start, president; Charles F. Campbell, vice-president, and Harry C. Glenn, secretary-treasurer.

MISCELLANEOUS FACTORIES

Ala., Birmingham-Brewery.—Imperial City Birmingham Brewing Co. will be incorporated with \$500,000 capital stock by J. F. Donahoo (offices in Woodward Bldg.) and others to establish brewery and ice plant. Mr. Donahoo wires Manufacturers Record as follows: "Brewery and ice plant to be built at cost of \$600,000; brewery capacity, 100,000 barrels yearly, of which 60,000 will be sold in wood and 40,000 handled by bottling department; ice plant, daily capacity 250 tons, of which 200 tons will be sold to consumers; all contracts will be let early in December; now arranging details."

Ala., Birmingham-Tires.—Auto Tire & Cycle Co. incorporated with \$2000 capital stock; Reese Stansel, president; W. R. Grimes, secretary-treasurer.

Ark., Murfreesboro-Creamery.—C. B. Coblenz, Indianapolis, Okla., contemplates, it is reported, establishment of creamery.

Fla., Tampa-Fruit Juices and By-products.—International Pure Fruit Juice and By-products Co., L. T. Trousdale, president, awarded contract to Swan & Holsinger, Tampa, to erect factory building; frame and cement; cost \$4000; construction begun; cost of machinery \$3000; daily capacity 200 gallons of juices. (Recently reported incorporated with \$10,000 capital stock.)

Ga., Atlanta-Beverages.—Standard Beverage Co. incorporated with \$25,000 capital stock by J. L. Montfue, J. T. Murphy and Ralph Weaver.

Ga., Cordale-Gas.—W. A. Dodson, Americus, Ga., and C. B. Fraley, Boston, Mass., applied for 25-year gas franchise; propose to erect gas plant and lay at least two miles of mains. Address The Mayor.

Ga., Decatur-Gas.—Establishment of gas and ice plants to supply Decatur, Kirkwood and Oakhurst is being considered. William S. Ansley, Atlanta, Ga., can be addressed for information.

Ga., Savannah-Cigars.—Colonial Cigar Co., Brunswick, Ga., contemplates establishment of cigar factory; capacity, 8000 to 10,000 cigars daily.

Ky., Louisville-Paints.—Louisville Lead & Color Co. is proceeding with construction of proposed five-story addition to paint factory; equipment will include milling machines to be operated by electric motors, heating plant and automatic sprinkler system. J. D. Cooper is superintendent.

La., DeQuincy-Turpentine.—Texas Pine Tar Co. will install plant for manufacture of resinous products, turpentine and pine tar from cut-over pine stumps according to recently perfected process; H. A. Stone, president, Beaumont, Tex.; W. S. Ferguson, vice-president, Leesville, La.; Thomas Wintles (of Cameron Lumber Co.), secretary-treasurer, Houston, Tex. (Recently reported incorporated with \$10,000 capital stock.)

La., Fullerton-Ethyl Alcohol.—Standard Alcohol Co., Chicago, closed contracts with Gulf Lumber Co., M. L. Fleishel, general manager, by which alcohol will be made from pine refuse by Classen process; plant to cost about \$500,000. Mr. Fleishel wires Manufacturers Record: "Standard Alcohol Co. will build fireproof plant here in connection with our operations, costing \$500,000 to \$750,000, and will make 5000 gallons ethyl alcohol per day; construction begun."

La., Lake Charles.—City contemplates granting gas franchise. Address The Mayor.

La., Jennings-Syrup.—Jennings Syrup Co. organized by C. B. Sigler, W. A. Rowson and A. T. Carmouche; purchased mill and will manufacture syrup and sugar.

La., New Orleans-Farming Implements.—John Rely Hoe Co. incorporated with \$45,000 capital stock to manufacture farming implements, principally hoes; William B. Rely, president; Henry E. Chambers, vice-president; George F. Parker, secretary-treasurer.

Md., Baltimore-Gloves, etc.—Parker Glove & Hosiery Co. incorporated by J. William Hill, 306 Roland Ave., Roland Park, Md., and others; will establish plant in Hampden.

Miss., Moss Point-Pulp.—L. N. Dantzier of L. N. Dantzier Lumber Co. is interested in promoting establishment of pulp factory. Mr. Dantzier wires Manufacturers Record: "Will know other details in two or three weeks; do not wish to give out name of promoter now."

Mo., Carlisle-Bottling Works.—Carlisle Bottling Works incorporated by Mrs. Martin Templeman, W. B. Ratliff and May Ruddell.

Mo., Jefferson City-Lime.—Central Missouri Lime Co. increased capital stock from \$10,000 to \$50,000.

Mo., Kansas City-Galvanizing.—Western Galvanizing Co. incorporated with \$10,000 capital stock by Thomas G. Gaines, Edward T. Martin and Edward R. Martin.

Mo., Kansas City-Adding Machines.—Deft Adding Machine Co. incorporated with \$50,000 capital stock by W. C. Renfrow, L. A. Robertson and Hennie B. Renfrow.

Mo., Kansas City-Bolts and Nuts.—Kansas City Bolt & Nut Co. increased capital stock from \$200,000 to \$500,000.

Mo., Princeton-Beverages.—Dixie Beverage Co. incorporated with \$25,000 capital stock by W. W. Pogue and Dr. W. B. Moore.

Mo., St. Louis-Candy.—United Drug Co., Boston, Mass., will, it is reported, establish candy factory.

Mo., St. Louis-Tires and Rubber.—Schelp-

Budke Tire & Rubber Co. incorporated with \$10,000 capital stock by Conrad Budke, C. M. Schelp, H. A. Krueger and others.

Mo., St. Louis-Tools.—Roth Tool Co. incorporated with \$20,000 capital stock by Edward W. Roth, Edward B. Roth and John O. Wilson; purchased plant of R. Roth Tool Co. at 2122 Chouteau Ave. and will operate; Edward W. Roth is president.

Mo., St. Louis-Clothing.—Herman Faber Cloak & Suit Co. incorporated with \$10,000 capital stock by Herman Faber, Louis Schmidt and Vera Lord.

Mo., St. Louis-Screens.—Radium Screen Co., Robert Warwick, president, leased building at 105 N. Main St. and will manufacture screens for theaters and moving-picture parlors; will remove machinery from Denver plant. (Recently noted.)

N. C., Ashboro-Wheelbarrows.—Ashboro Wheelbarrow & Manufacturing Co. will install additional machinery, as recently stated; no new buildings.

N. C., Hickory-Chairs.—Hickory Chair Manufacturing Co. incorporated with \$27,500 capital stock by J. D. Elliott and R. F. Seagle of Hickory; J. D. Johnson, Charlotte, N. C.; R. E. Bean, Helena, Ark., and others.

N. C., Hickory-Hickory-Manufacturing Co.—Incorporated with \$150,000 capital stock by J. D. Elliott and others.

Okla., Sapulpa-Crackers.—Loose-Wiles Biscuit Co. will, it is reported, establish plant.

Okla., Tulsa-Crackers.—Jones Bros., Independence, Kans., will establish cracker factory in Sand Springs.

Tenn., Chattanooga-Stock Medicine.—Bee Dee Stock Medicine Co. incorporated with \$300,000 capital stock; James R. Huff, manager; J. Fred Weir, treasurer; will acquire Black-Draught Stock Medicine Co. and continue operations.

Tenn., Memphis-Tents and Awnings.—Hatley Manufacturing Co., L. H. Hatley, president, incorporated with \$5000 capital stock. (Recently noted as Hatley Tent Co.)

Tenn., Memphis-J. J. DeVine of White-hall, Mich., and Chicago, Ill., contemplates establishing plant for manufacturing cotton stalks into fiber by chemical process; fiber can be used for making twine, rope, etc.; company incorporated with \$50,000 capital stock.

Tenn., Paris-Toilet Preparations.—National Toilet Co. purchased Crete Opera House for \$10,000; will remodel building, install heating system and equip for manufacturing toilet preparations; will also be used as general offices and warehouses.

Tex., Alpine-Wax, etc.—Oscar Pascius and associates will establish wax, soap and paper factory; cost about \$7500.

Tex., Dallas-Dairy.—Moser Hygiene Dairy Co. reorganized with \$20,000 capital stock; purchased several branch creameries, which will furnish new company with milk and butter; closed contract for building at Canton and Akard Sts., which will be equipped for manufacturing butter and pasteurized milk; C. O. Moser of Dallas and M. Mortensen, manager of Alvin & Houston Creamery Co. of Alvin and Houston, Tex., are interested.

Tex., El Paso-Confectionery.—Elite Confectionery Co. increased capital stock from \$25,000 to \$40,000.

Tex., San Benito-Sugar.—San Benito Sugar Manufacturing Co. increased capital stock from \$150,000 to \$225,000.

Va., Norfolk-Brooms.—Model Broom Works, W. J. Casey, proprietor, will erect building; galvanized iron; building 50x60 feet; fireproof construction; cost \$1000; to be equipped for broom factory; daily capacity, 75 dozen.

MOTORS AND GARAGES

Fla., Jacksonville.—John T. Flynn will erect garage; two stories; frame.

Fla., Anastasia.—U. J. White will erect garage, etc. (See "Dwellings.")

Ga., Rome-Seay-McCarthy Automobile & Garage Co.—Incorporated with \$3000 capital stock by S. R. McCarthy, R. M. McCarthy and John J. Seay.

Md., Hagerstown.—Antletam Garage Co. leased building and will operate garage; machinery purchased; Ernest Shockey, president and manager; Ira H. Smith, secretary-treasurer. (Recently reported incorporated with \$5000 capital stock.)

Mo., St. Louis-Mack Motor Truck Co.—Incorporated with \$25,000 capital stock by William R. Bush, Frank J. Bush, Knox Tausig and others.

Mo., St. Louis-Moon Motor Car Co.—Will erect automobile factory addition; cost \$9000.

S. C., Columbia-Consolidated Auto Co.—In-

corporated with \$5000 capital stock by J. B. Roddey, W. W. Pearce, John J. Cain and others.

S. C. Spartanburg.—J. F. Burgess awarded contract to T. W. Hughton, Spartanburg, to erect garage and club building to be occupied by Carter Garage Co. and Spartan Cottillon Club; two stories; brick; 42x115 feet; lower floor for garage and equipped with vulcanizing plant; upper floor for clubrooms.

Tenn., Nashville.—Marathon Motor Works increased capital stock to \$1,000,000 and wires Manufacturers Record: "Have purchased entire plant of Carlson & Oil Co. adjoining present plant, more than doubling floor space; will double equipment in 60 days of both machine and woodworking shops and erect office building; red brick and stone; two stories; about 60x100 feet; new equipment to cost approximately \$225,000; W. H. Collier is engineer in charge; production for next year will be 3500 cars.

Va., Fredericksburg.—Fredericksburg Motor Co. incorporated with \$10,000 capital stock; L. R. Colbert, president, Massaponax, Va.; J. Curtis Biscoe, secretary-treasurer, Fredericksburg.

Va., Richmond.—Granville G. Valentine will erect garage; two stories; brick.

Va., Richmond.—G. F. Valentine will erect garage; brick.

RAILWAY SHOPS, TERMINALS, ROUNDHOUSES, ETC.

Tenn., Dyersburg.—Chicago, Memphis & Gulf Railroad, S. G. Latta, president, Dyersburg, will erect roundhouse and machine shops.

Tex., Sweetwater.—Gulf, Colorado & Santa Fe Railway, F. Merritt, chief engineer, Galveston, Tex., will, it is reported, expend \$2,000,000 for terminals and division headquarters; shops to be included.

ROAD AND STREET WORK

Ala., Attalla.—City will grade, drain, pave and curb sidewalks and gutters on Fifth Ave., 3d and 1st Sts., and grade, drain and pave sidewalks on Cleveland Ave. and C. D. and 5th Sts. T. C. Bank, Mayor.

Ala., Bessemer.—Jefferson County Commissioners awarded contract to W. D. Wade to grade road near Oak Grove.

Ala., Indeville.—Tallapoosa county will construct clay road from Dadeville to Millers Ferry; 5 per cent. grade; 26 feet from ditch to ditch; cost \$8000 to \$10,000; J. R. Hall, engineer in charge; contract (recently reported awarded) will be let December 1; further information may be had by addressing State Highway Engineer, Montgomery, Ala. (See "Machinery Wanted.")

Ala., New Decatur.—City will construct cement sidewalks and brick crosswalks; bids received until November 16; John Patterson, Mayor. (See "Machinery Wanted.")

Ark., Pine Bluff.—City awarded contract to Shelby & Bateman, Little Rock, Ark., to pave with crossbed blocks W. Baroque and W. Pullen Sts. from Mulberry St. to Bellwood Cemetery, about one mile; cost about \$60,000.

Fla., St. Petersburg.—City will grade and pave Ninth Ave. north from 9th to 15th St.; width 15 feet; bids received until November 8; W. F. Divine, City Clerk. (See "Machinery Wanted.")

Fla., Tallahassee.—City will vote November 23 on \$30,000 bond issue for paving streets. Address The Mayor.

Ga., Byronville.—City voted \$1400 bond issue for street improvements. Address The Mayor.

Ga., Decatur.—DeKalb county will vote December 7 on \$550,000 bond issue for road construction. Address County Commissioners.

Ga., Greensboro.—Greene county will vote December 7 on \$75,000 bond issue for improvements to roads and construction of steel bridges over Oconee River and smaller streams. Address County Commissioners. (Recently mentioned.)

Ky., Paducah.—Jefferson Davis Highway Association contracted with James S. Caldwell of Paducah to make preliminary survey for Jefferson Davis Highway. (Recently mentioned.)

Md., Annapolis.—State Roads Commission, Union Trust Bldg., Baltimore, Md., will construct section of State highway about three miles from Owings toward Mt. Zion, in Anne Arundel county; stone surfacing; bids received until November 15; John M. Tucker, chairman. (See "Machinery Wanted.")

Md., Baltimore.—W. O. Atwood, City Surveyor, 18 E. Lexington St., submitted plat to Commissioners for Opening Streets for pro-

posed boulevard from Gwynns Falls Park to Druid Hill Park.

Md., Baltimore.—Joseph Shirley, chief engineer, Topographical Survey, City Hall Annex, is preparing plans for development and improvement of Reisterstown Rd. from Fulton and Pennsylvania Aves. to Pimlico; proposed width 95 feet; work to be undertaken by city and Baltimore county; city will complete work as far as city limits; also proposed to construct viaduct connecting West and Druid Hill Parks.

Miss., Meridian.—City ordered construction of cement sidewalks 12 feet wide on west side of Twenty-third Ave.; also five-foot cement sidewalk, curb and gutter along east side of Thirteenth Ave. from 6th to 13th St. and along south side of 13th St. from Twelfth to Thirteenth Ave.; C. W. O'Leary, City Clerk.

Mo., Fulton.—Fulton Eight-Mile Road District will vote again on organization of road district and issuance of \$100,000 of bonds for road construction; recent election invalid; proposed to build roads leading each way from Fulton for four miles; planned to construct about 30 miles of rock and gravel roads and grade all dirt roads 30 feet wide. R. L. Smith, T. N. Lynes and H. G. Turner are Commissioners. (Recently mentioned.)

Mo., Kansas City.—Federal Investment Co., Hunter M. Meriwether, president, will construct paved roadway three-quarters mile long, to extend east and west along river front from foot of Broadway to foot of Mulberry St.; plans call for 60-foot roadway with paved width of 40 feet.

Mo., Pittsburg.—City will pave Catalpa St. from Forest Ave. to 9th St., 11 blocks. Address City Commission.

Mo., St. Louis.—Board of Public Works will pave 114,000 square feet of Kings Highway Viaduct with crossbed wood block on concrete foundation; granitoid walks, about 43,800 square feet; decorative work consists of cast-iron posts, concrete benches, etc.; cost \$67,000; bids will be advertised; plans and specifications on file in office of president of Board of Public Works two weeks prior to letting contracts, which will probably be early in spring; James C. Travilla, Street Commissioner.

Mo., St. Louis.—Board of Public Improvements approved bills which will be submitted to Municipal Assembly for street improvements costing \$171,560.

N. C., Brevard.—E. H. Jennings, president Colonial Trust Co., Pittsburgh, Pa., contemplates construction of 20-mile road around Lake Toxaway on property of Toxaway Company in Transylvania county; sand-clay construction; width, 24 feet. (See "Land Developments.")

N. C., Greenville.—City is considering bond issue for street paving. Address The Mayor.

N. C., Lincolnton.—City will construct about 2000 yards of concrete sidewalks; bids received until November 12; D. A. Yoder, Street Commissioner. (See "Machinery Wanted.")

N. C., Troy.—Montgomery county will vote in January on \$100,000 bond issue for road construction. Address County Commissioners.

N. C., Mount Holly.—City awarded contract to Dunn & Thompson, Mount Holly, to construct cement sidewalks in business section. (Recently noted.)

Okla., Bartlesville.—City will grade, curb, gutter, pave and otherwise improve, including installation of gas, sewer and water connections 10th St. from Osage to Armstrong Ave.; width 30 feet; bitulithic pavement on four-inch concrete base; bids received until November 14; J. V. Delametter, City Clerk. (See "Machinery Wanted.")

Tenn., Loudon.—A special dispatch to Manufacturers Record says: "Loudon County Court, W. C. Cannon, chairman, voted \$100,000 bonds for roads."

Tenn., Loudon.—Loudon County Commissioners contemplate road improvements; propose \$100,000 bond issue.

Tenn., Memphis.—City awarded contract to Mike Larkin of Memphis to construct gravel roadway on Arkansas Ave.; cost about \$20,000.

Tenn., Memphis.—City Commissioners authorized opening of Mulberry St. from Huling to Calhoun Ave., and paving street from Beale to Calhoun Ave.; estimated cost of pavement, \$79,510.26. Address The Mayor.

Tenn., Paris.—Henry County Commissioners appropriated \$10,000 for road improvements; supplements like amount to be secured by subscriptions.

Tenn., Savannah.—Corinth, Shiloh & Savannah Turnpike Co. incorporated with \$25,000 capital stock to construct road from Savannah to Alcorn, Miss.

Tex., Athens.—Henderson county will vote November 11 on \$23,000 bond issue for road construction. Address County Commissioners.

Tex., Anderson.—Grimes county will vote November 20 on \$125,000 bond issue for construction of macadamized, paved and gravel roads. Address County Commissioners.

Tex., Fort Worth.—Tarrant County Commissioners postponed date of voting on \$1,000,000 bond issue for road construction from November 25 (as lately stated) to December 12.

Tex., Goliad.—County Commissioners contemplate calling election to vote on \$250,000 bond issue for road construction.

Tex., Houston.—Greater Houston Suburban Corporation, C. J. McCarty, president, 906 Scanlan Bldg., is proceeding with paving and grading at Park Pl.; grading contract let to Vernon Ford; company is building system of streets and boulevards; double drives with parks in center; shell drives at present; cement walks, etc.; J. M. Winfrey, engineer, Scanlan Bldg. (Previously noted under "Land Developments.")

Tex., Farmersville.—City will construct concrete crossings, curbs, gutters and culverts; bids received until November 15; J. P. Huddleston, Mayor. (See "Machinery Wanted.")

Tex., San Antonio.—City contemplates extending paving on Zarzamora St. about 12 blocks south of its present terminus to W. Commerce St. Address The Mayor.

Va., Houston.—Hallfax county has begun construction of proposed road from Wolf Trap to point near Abbeville Ferry; width to be 30 feet; roadbed 18 feet wide constructed partly of gray soil and partly of black gravel; will construct iron bridge with concrete piers where Banister River is to be crossed, about 1½ miles from Wolf Trap; J. W. Johnson of Houston is supervising construction.

Va., Norfolk.—Finance committee will recommend that city contract with Virginia Railway & Power Co. and United States Wood Preserving Co., 29 Broadway, New York, for repaving Church St. from Queen to Main St. with wood block, and from Queen to Goff St. with combination of Belgium block and wood key blocks, and for widening street to 33 feet; estimated cost \$83,250, including water and sewer mains; W. T. Brooke, City Engineer.

W. Va., Wheeling.—City will repave 15th St.; asphalt to be placed over cobblestones. Address The Mayor.

SEWER CONSTRUCTION

Ala., Jasper.—City engaged engineers to make survey preparatory to construction of sewer system; surveys now being made in East Jasper; \$10,000 bond issue voted. Address The Mayor. (Previously mentioned.)

Ark., Clarendon.—City will let contract during December for construction of proposed sewerage and water-works systems. Address The Mayor.

Ark., Pine Bluff.—City awarded contract to Joseph McCoppin, Little Rock, Ark., at \$10,221 for sewer construction in District No. 14, covering about 45 blocks; F. R. Allen, City Engineer, will supervise construction.

D. C., Washington.—Commissioners District of Columbia will receive bids until November 15 for construction of sewers; will receive bids until November 17. (See "Machinery Wanted.")

Md., Baltimore.—City awarded contract to Fisher & Carozza, American Bldg., Baltimore, at \$793,989.50 for construction of second section of Jones Falls storm-water sewers, extending from Center St. to Mount Royal Ave.; work will require 16,000 cubic yards earth excavation, partly in tunnel; 47,200 cubic yards rock excavation, chiefly in tunnel; 1000 cubic yards embankment; 47,370 cubic yards concrete masonry; 925 cubic yards brick masonry; 3,340,000 pounds reinforced steel; 11,000 square yards granolithic surfacing; 57 tons plate girders; 170 tons cast-iron pipe and specials; 900 linear feet vitrified pipe, 6 to 30 inches diameter; 4000 pounds cast iron; 30,000 pounds steel I beams tearing down and removing three bridges. (Recently mentioned.)

Miss., Meridian.—City awarded contract to C. H. Dabbs & Co. of Meridian at \$4283.80 to construct storm sewer along Twenty-sixth Ave. from A to D St.; J. W. Parker, Mayor.

Mo., St. Louis.—Board of Public Improvements plans formation of Gratiot sewer district, having its center at Arsenal St. and Ivanhoe Ave.; will make improvements to cost about \$75,000.

Va., Bristol.—W. L. Rice, Mayor, states city is not at present contemplating construction of sewer system recently noted.

Va., Richmond.—Council committee on streets opened bids for construction of two trunk sewers in Washington ward and for five smaller sewers in city proper; work will comprise 5000 linear feet of sewers from 5½ to 10 feet diameter and 3280 linear feet from 2½ to 4 feet diameter; A. W. Manard is probably lowest bidder; total cost, about \$90,000; Charles E. Boiling, City Engineer. (Lately noted.)

W. Va., Wheeling.—Norton & Co. awarded contract to Stringer & Stringer to construct sewer from National Pike to creek. (See "Land Developments.")

TELEPHONE SYSTEMS

Ala., Birmingham.—Southern Railway, B. Herman, chief engineer, 1300 Pennsylvania Ave. N. W., Washington, D. C., will, it is reported, extend telephone system between Chattanooga and Knoxville on Knoxville division, distance of 111 miles.

Ark., Arkadelphia.—Arkadelphia Telephone Co. will make improvements; cost \$10,000.

Ark., Gentry.—Mt. Zion Farmers' Telephone Co., Decatur, Ark., will construct 40 to 60 miles of telephone line, switchboard, etc.; no bids asked; A. J. Sears is secretary. (City recently noted to have granted franchise.)

Miss., Vicksburg.—Cumberland Telephone & Telegraph Co., Nashville, Tenn., has begun proposed additions and improvements to local telephone system; estimated cost, \$20,000.

S. C., Springfield.—Springfield, Salby & Wagner Telephone Co. incorporated with \$10,000 capital stock by L. M. Mims and W. D. Black.

Tex., Elkhart.—Farmers' Union Telephone Co. organized to construct telephone system. Ben J. Parker is president.

Tex., McKinney.—Union Telephone Co. purchased two-story brick building on N. Kentucky St., to be equipped as main office for district; will construct long-distance and local telephone system and place wires underground in business district; reported expenditure, \$100,000.

Va., Leesburg.—Leesburg Telephone Co. increased capital stock from \$10,000 to \$25,000; no new construction; main office address, Falls Church, Va.

Va., Pleasant Ridge.—Back Bay Telephone Co. incorporated with \$5000 capital stock; Charles T. Moore, president, Pleasant Ridge; T. F. Williams, vice president, Princess Anne, Va.; G. W. Dawley, secretary, Pleasant Ridge.

W. Va., Kenova.—Southern Bell Telephone & Telegraph Co. (main offices, Atlanta, Ga.) will build telephone exchange.

TEXTILE MILLS

Ala., Alabama City.—Sheetings and Drills, Dwight Manufacturing Co. will install 100 Draper looms already purchased.

Ga., Forsyth.—Cotton Yarns.—R. P. Brooks, J. W. Newton and B. F. Hill, Jr., purchased Newton-Harp Manufacturing Co.; will incorporate Star Cotton Mill with capital stock of \$30,000 to operate plant on production of cotton yarns.

N. C., Marion.—Print Cloth.—Marion Manufacturing Co. awarded contract to Riddle Bros., Marion, to erect buildings for installation of new equipment; awarded contracts to Saco-Pette Company, Newton Upper Falls, Mass., for carding machines; to Fales & Jenks, Pawtucket, R. I., for spinning machinery, and to Draper Company, Hopedale, Mass., for looms; J. E. Strine, Greenville, S. C., is architect.

N. C., Raleigh.—Hosiery.—Durham (N. C.) Hosiery Mills is equipping branch plant for looping work; Calhoun Carr, manager.

N. C., Chapel Hill.—Hosiery.—Durham (N. C.) Hosiery Mills states that it will not erect mercerizing plant, as recently reported.

N. C., High Point.—Silks.—Stehli & Co., Lancaster, Pa., reported as to enlarge plant; will erect structure for additional weaving department, 124x144 feet.

N. C., Shelby.—Cotton Yarns.—Lilly Mill & Power Co. awarded contract to Goode Construction Co., Charlotte, N. C., to erect addition for steam power; 32x79 feet; one story; brick walls; reinforced concrete roof; cost about \$5000; construction begun; machinery to generate about 300 horse-power; portion of it purchased; R. C. Biberstein, Charlotte, N. C., architect.

WATER-POWER DEVELOPMENTS

Ga., Atlanta.—Appalachian Power Co., Louis R. Magid, president, is changing name to Appalachian Electric Power Co.; has engineers investigating five properties in North Georgia to determine plans for development;

company will furnish electricity to Toocoa, Ga., and Walhalla, Seneca and Westminster, S. C.; has franchise for Toocoa. (Previously mentioned.)

N. C., Brevard.—E. H. Jennings, president Colonial Trust Co., Pittsburgh, Pa., contemplates development of water-power on property of Toxaway Company in Transylvania county; machinery ordered for developing about 300 horse-power; distributing plant to be built is to furnish electric lights for entire property, comprising 150 acres, including buildings and grounds. (See "Land Developments.")

N. C., Marion.—Yancey Bros. are interested in development of water-power plant. (See "Land Development.")

Tenn., Knoxville.—Knoxville Light & Power Co., incorporated with \$500,000 capital stock by T. Ashbury Wright, Abraham Rosenthal, R. M. Jones, E. G. Oates and Walter McCoy; will be subsidiary company of Eastern Tennessee Power Co. and distribute power to Knoxville and vicinity generated from water-power-electric plant on Ocoee River; expenditure is estimated at from \$400,000 to \$500,000, of which about \$10,000 will be expended for transmitting machinery and balance for power plant; Eastern Tennessee company will have first dam completed and in operation about first of year; first distributive point will be Cleveland, Tenn., and from there transmission lines will be built to Chattanooga and Knoxville; former will be extended to Dalton and Rome, Ga. (Full details of Eastern Tennessee Power Co.'s development previously reported.)

Va., Roanoke.—Appalachian Power Co. will build substation; Viele, Blackwell & Buck, engineers, 49 Wall St., New York; company's president is H. M. Byllesby, 125 Monroe St., Chicago, Ill.; branch offices in charge of Samuel Kahn at Bluefield, W. Va. (Company's plans for development of water-power-electric plants on New River recently noted.)

WATER-WORKS

Ark., Earl.—City Council granted franchise to James Z. George, Memphis, Tenn., to operate water-works; formerly operated by city; Mr. George purchased entire plant and proposes to enlarge and improve system.

Ark., Russellville.—Russellville Water & Light Co. has plans by Fuller-Coult Co., engineers, Chemical Bldg., St. Louis, Mo., for water-works previously noted; bids received until November 20 for furnishing material, etc. (See "Machinery Wanted.")

Ark., Clarendon.—City will let contract during December for construction of proposed water-works and sewerage system. Address The Mayor.

Ark., Gravette.—City will construct water-works. Address The Mayor.

Ga., Byromville.—City voted \$4000 water-works bonds. Address The Mayor.

Ga., Macon.—City engaged W. P. Bullock, Kansas City, Mo., as consulting and constructing engineer to supervise extension and improvement of water-works, including installation of new pumps, extension of mains to annexed territory, etc.; estimated expenditure \$629,000; W. H. Fetner, chairman Water Commission. (Further facts recently noted.)

Mo., Lamar.—City voted \$70,000 bond issue for construction of water-works and electric-light plant. Address The Mayor.

Mo., Pacific.—City will receive bids until November 27 for furnishing material and constructing water-works; 300,000 gallons capacity; plans recently noted prepared by Fuller-Coult Company, engineers, Chemical Bldg., St. Louis, Mo. (See "Machinery Wanted.")

Mo., Pittsburg.—City Commission passed ordinance providing for \$40,000 bond issue for improvements to water-works.

Mo., St. Louis.—Board of Local Improvements authorized expenditure of \$150,000 for increased water distribution in outlying district of St. Louis and for additional fire protection of certain sections; betterments will include 36-inch main from Baden Station to Calvary Ave., along Broadway, about one mile, and other work in southwestern and northwestern sections of city, amounting to about 15 miles of pipe; estimated cost, \$37,000.

N. C., Selma.—City will let contract November 14 for equipment for water-works improvements recently mentioned. Address M. C. Winston or J. N. Mitchiner. (See "Machinery Wanted.")

Okla., Bartlesville.—Bartlesville Water Co., incorporated with \$150,000 capital stock by Tom George and John C. Hughes of Bartlesville and S. W. Swahey, Chicago, Ill.; will acquire Bartlesville Water Co. and make improvements to water system, including in-

stallation of new settling basins and filtering plant.

Okla., Pryor Creek.—City's plans for water-works extensions recently noted include 33,000 linear feet of 10-inch Class "B" cast-iron pipe; bids received until November 20; Benham Engineering Co., 812 American National Bank Bldg., Oklahoma City, prepared plans and will also supervise construction. (See "Machinery Wanted.")

Okla., Chandler.—City postponed date of opening bids from October 24 to November 21 for drilling artesian well recently noted; well to be 2500 feet deep; J. Bart Foster, City Clerk. (See "Machinery Wanted.")

Okla., Kingfisher.—City is having plans prepared by Benham Engineering Co., 812 American National Bank Bldg., Oklahoma City, Okla., for extensions to water-works and electric-light plant; bond issue of \$28,000 voted. (Previously noted.)

Okla., Heavener.—City has plans and specifications for proposed dam 135 feet long, to be constructed across Blackfork River to conserve water supply; contract will probably be awarded soon. Address The Mayor.

Tenn., Johnson City.—City retained J. C. Cook, Atlanta, Ga., to revise plans and specifications for construction of proposed water-works.

Tenn., Trenton.—Mayor and Board of Aldermen will construct water-works and electric-light plant; bids received until November 17; R. C. Huston, consulting engineer, 1634 Exchange Bldg., Memphis, Tenn.; W. E. Scott, Mayor. (See "Machinery Wanted.")

Tex., Gainesville.—City will construct reinforced concrete reservoir and pumping wells; bids received until November 13; N. Werenskiold, 409 Flato Bldg., Dallas, Tex., is engineer; F. H. Sherwood, secretary Gainesville Water Commission. (See "Machinery Wanted.")

Tex., Houston.—Greater Houston Suburban Corporation, C. J. McCarty, president, 906 Scanlan Bldg., placed contract for tank and tower; contracts for hydrants, pipe, etc., not yet let; J. M. Winfrey, Scanlan Bldg., is company's engineer. (Recently noted to construct water-works.)

Tex., Mt. Vernon.—City will vote in about 10 days on \$20,000 bond issue for construction of water-works recently noted; will want bids on complete system when bonds are issued; desires addresses of engineers of water-works construction; W. E. Haydon, Mayor. (See "Machinery Wanted.")

Va., Gordonsville.—Town will drill 300 to 500-foot well and install pumping station; contract not let. Address A. B. Martin, chairman water committee. (See "Machinery Wanted.")

W. Va., Middlebourne.—Middlebourne Water Co., incorporated with \$10,000 capital stock by S. G. Pyle, J. G. Mayfield, John F. Shore, K. S. Boreman and others.

W. Va., Warwood.—Warwood Water & Light Co. will make short extension to supply mains; materials arranged for. (Recently noted to have applied for franchise.)

WOODWORKING PLANTS

Ark., Little Rock.—Handles.—First National Bank purchased and will reorganize Ohio Handle Co.'s plant; new company will have \$8000 capital stock and following officers: E. C. Stuck, president; Will R. Stuck, vice-president; G. A. Triflar, secretary and manager; James E. Parr, treasurer.

Ark., Marmaduke.—Staves.—Marmaduke Stave Co., incorporated with \$10,000 capital stock by E. T. Vall, W. E. Talley, A. E. Randall and E. G. Donaldson.

Fla., Tampa.—Charles W. J. Moreland, Rochester, N. Y., contemplates, it is reported, establishment of chair factory.

Ky., Louisville.—Tables and Slides.—Milton-Peter Manufacturing Co. will rebuild burned table and slide factory; equipment will include power machinery, machine tools and woodworking machinery.

Ky., Louisville.—Veneer.—Anderson Veneer & Sawmill Co., incorporated with \$60,000 capital stock by Olaf Anderson, R. M. Cunningham and W. V. Shepherdson.

N. C., Winston-Salem.—Boxes.—Mengel Box Co. awarded contract to Harwood & Moss, Newport News, Va., to build tobacco box factory; 215x200 feet; three stories and basement; reinforced concrete; electric light; steam heat; automatic sprinklers; also erect water tank with capacity of 50,000 gallons; capacity of plant, 20,000 boxes daily; estimated cost, \$100,000. (Previously mentioned.)

Okla., Muskogee.—Furniture.—Muskogee Furniture Manufacturing Co., incorporated with \$50,000 capital stock by P. W. Samuel, A. C. Trumble, I. A. Stewart and others.

Tex., Waco.—Sashes and Doors.—Waco Sash & Door Co. is proceeding with arrangements for construction of proposed sash and door factory; reported cost, \$500,000.

Va., South Boston.—Buggies, etc.—Barbour Buggy Co., R. S. Barbour, president, is asking prices on equipment for body plant recently reported burned. (See "Machinery Wanted.")

BURNED

Ark., McCrory.—H. A. Langton & Co.'s main sawmill.

D. C., Washington.—Buick Motor Car Co.'s repair shop and warehouse at 1133-41 17th St. N. W.; loss on building, owned by Mrs. T. Costello, \$5000.

Fla., Clearwater.—Building owned by Nasser Bros. of Waycross, Ga.; loss about \$4500.

Fla., Live Oak.—Star Cooperage Co.'s plant; estimated loss, \$6000.

Fla., Miami.—Miami Steam Laundry, at Avenue D and 7th St.

Fla., St. Petersburg.—M. J. Glosser's residence.

Ga., Atlanta.—C. C. McGee's store building, occupied by Oscar Barnes Furniture Co., loss on building about \$15,000; building owned by Jack J. Spalding and Reuben Arnold, loss \$25,000; W. D. Ellis building, occupied by Fulton County Daily Report plant, J. L. Burnett and others, loss on building about \$10,000.

Ga., Canton.—Gus Coggins' residence.

Ga., Concord.—Concord Variety Works cotton gin; estimated loss, \$5000.

Ga., Harlem.—Harlem Oil & Fertilizer Co.'s plant; estimated loss \$15,000.

Ga., Marietta.—Seventh District Agricultural College dormitory at Mackland; loss on building, \$15,000.

Ky., Fairview.—Wilkins Bros.' two stores; loss \$3000.

Ky., Louisville.—Stratton & Terstege Co.'s stove and furnace plant; loss \$30,000.

Ky., Paducah.—Rehkopf Distilling Co.'s plant at 103 S. 2d St.; estimated loss, \$51,000.

La., Coushatta.—Red River parish jail. Address Police Jury.

La., Ball.—J. F. Ball Lumber Co.'s sawmill; estimated loss, \$45,000.

La., New Orleans.—Miss Lizzie Reale's residence; loss \$3500.

La., Rio.—Rio Mercantile Co.'s store, Olive Williams' store and dwelling, Wm. Dunfries' dwelling, Mrs. John Kennell's residence; total loss about \$20,000.

Md., Baltimore.—Northern Central Railway's roundhouse at Guilford Ave. and Preston St.; loss about \$63,000; Alexander C. Shand, chief engineer, Philadelphia, Pa.

Md., Baltimore.—Southern Furniture Co.'s store at 729-33 N. Gay St.; building owned by Leon Lauer, 449-53 N. Gay St.; loss \$10,000.

Miss., Howard.—Beall & Howard's cotton gin.

Miss., Laurel.—Residences of H. C. Webb, Andrew Flanigan, George Dennis and W. A. Edwards; loss \$15,000.

Miss., Lake Como.—C. Thigpen's store; loss \$5000 to \$6000.

Miss., Newton.—L. R. Gilmore's residence; loss about \$3500.

Miss., Ruleville.—J. W. Rule's residence; loss \$4000.

Mo., Houston.—Leavitt Building; loss about \$10,000.

Mo., Pleasant Hill.—Taylor House, owned by Mr. Heinz of Kansas City.

BUILDING NEWS

BUILDINGS PROPOSED

APARTMENT-HOUSES

Ky., Louisville.—W. M. Reeser will expend \$2800 each to erect four apartment-houses; three stories; six apartments; 71x75 feet; ordinary construction; cost of heating plant for each house, \$1500; plans and construction by owner. (Recently noted.)

Mo., Kansas City.—D. A. Allison has plans by A. L. Lucas, 2508 Mersington Ave., Kansas City, for apartment-house; 40x65 feet; four apartments; ordinary and mill construction; steam heat; gas and electric lighting; cost \$12,000; construction by owner. (Recently noted.)

Mo., St. Louis.—Charles E. Stewart, vice-president of Wellston Planing Mill Co., will erect five double apartment-houses and two single apartment-houses; cost \$36,000.

Mo., St. Louis.—L. H. and C. F. Levy will

N. C., Granite Quarry.—T. J. Lyster's store; loss \$5000.

N. C., Harrisburg.—Cabarrus County Cotton Warehouse Association's warehouse; J. P. Allison, president.

N. C., Seaboard.—W. D. Simmons' lumber plant; loss \$3000.

Okla., Ardmore.—High School building damaged; loss about \$3000. Address The Mayor.

Okla., Butler.—F. W. Wachholtz's building, J. M. Barklay's racket store; loss about \$12,500.

Okla., Duncan.—Duncan Cotton Oil Co.'s cotton gin; loss \$10,000.

Okla., Mountain View.—Washita Farmers' Union cotton gin; loss \$5500.

Okla., Oklahoma City.—Oklahoma Cotton Oil Co.'s hull house; loss about \$12,000.

S. C., Laurens.—T. F. Babb's two buildings, loss \$35,000; Dr. Clifton Jones' building, loss \$4000; Henry Martin's building, loss \$7000.

Tex., Denison.—St. Patrick's Catholic Church and parsonage; loss about \$80,000; Rev. P. M. Donohoe, pastor.

Tenn., Nashville.—Mrs. Effie H. Bond's barn and residence at 110 Sigler St.; loss about \$3000.

Tenn., Nashville.—John B. Ransom Lumber Co.'s drykiln; loss \$2000.

Tex., Galveston.—Galveston, Houston & Henderson Railroad's machine shops and roundhouse; loss about \$15,000.

Tex., Decatur.—Chico Male and Female School; loss \$12,000.

Tex., Flatonia.—High-school building. Address The Mayor.

Tex., Greenville.—Frank Wolfe's transfer and storage building damaged; loss about \$5000.

Tex., Hillsboro.—J. R. Derden's building; loss \$6000 to \$7000.

Tex., Jayton.—Matthews & Co.'s store; loss \$10,000.

Tex., Lubbock.—Lubbock Mercantile Co.'s building; loss \$85,000.

Tex., Madisonville.—Madison county high-school building; loss \$4500. Address County Commissioners.

Tex., Nixon.—J. M. Fly's building, occupied by Nixon State Bank; Nixon Hardware Co., and others; loss about \$10,000.

Tex., Oak Grove.—H. L. Osborne's cotton gin.

Tex., Turnersville.—Grisby & Hollingsworth's store.

Tex., Temple.—B. A. Cordell's residence at 4th St. and Calhoun Ave.; loss about \$4000.

Tex., Tyler.—Texas College's dormitory; loss \$5000.

Tex., Whitehouse.—Dickenson Bros.' cotton gin; loss about \$9000.

Va., Falls Church.—Mrs. Louise Hillard Patterson's residence at Munson's Hall.

Va., Lowmoor.—Lowmoor Iron Co.'s machine and blacksmith shops; loss about \$50,000.

Va., Whaleyville.—James H. Vaughan's barn.

W. Va., Charles Town.—J. B. and Herman Huyett's barn; loss \$4900.

W. Va., Parkersburg.—H. B. Reese's residence at Redwood, occupied by W. O. B. Wells; loss about \$5000.

WRECKED BY EXPLOSION

Okla., Yarny.—Postoffice and store buildings. Address The Postmaster.

ing, chairman of building committee, Macon, Ga., wires to Manufacturers Record: "Building not decided on yet."

Ky., Maysville.—Benevolent Protective Order of Elks will probably erect lodge building; cost \$75,000.

La., Eden.—Woodmen of the World are preparing to erect lodge building to replace burned structure.

La., New Orleans.—Benevolent Knights of America purchased building at 627 North St., and will remodel for lodge building.

N. C., Wilmington.—Young Men's Christian Association contemplates erection of building.

Tex., Alpine.—W. B. Hancock, chairman, will receive bids until noon November 15 to erect two-story Masonic building; certified check for \$100; plans and specifications at Alamo National Bank.

Tex., Dallas.—Ancient Free and Accepted Masons' plans for building include lodge-rooms, offices and stores; five stories and basement; 90x100 feet; fireproof construction; plans by Lang & Witchell, Dallas; construction on commission basis. (Recently noted.)

Tex., San Antonio.—Labor Temple Co. is being organized by William L. Hoefgen, John Stennet, A. O. Stouck and others to erect proposed labor temple; probably three stories, with bowling alleys, hot and cold water baths, etc., in basement; cost about \$40,000.

BANK AND OFFICE

Fla., Orlando.—Dr. McEwan will erect sanitarium and office building.

Ga., Dalton.—Bank of Dalton, D. B. Barrett, president, will erect bank building; three stories instead of two, as previously planned. (Recently noted.)

Ga., Rome.—State Mutual Life Insurance Co. will remodel building and erect additional structure; cost \$15,000; construction begun.

La., Baton Rouge.—J. K. Roumain will receive bids through architects Favrot & Livaudais, New Orleans, La., until noon November 13 to erect office and store building. (See "Stores.")

La., Roseland.—Roseland Veneer & Package Co. will open bids about November 15 to erect bank and store building. (See "Stores.")

Md., Towson.—Towson National Bank, York Rd., purchased Piper Building, and will remodel for bank; install marble front, safes, vaults, safety deposit boxes, etc.

Miss., Jackson.—First National Bank will not erect building. (Recent report incorrect.)

S. C., Columbia.—Palmetto Construction Co. will expend \$300,000 to erect bank and office building; 52x93 feet; 14 stories; fireproof construction; electric lighting; steam heat; electric elevator; plans by Isaacs & Harder, 31 W. 31st St., New York; date of opening bids not set. (Recently noted.)

Tenn., Nashville.—Marathon Motor Works will erect office building. (See "Motors and Garages.")

Tex., Dallas.—Ancient Free and Accepted Masons will erect office, lodge and store building; construction on commission basis. (See "Association and Fraternal.")

Tex., Devine.—Adams National Bank will open bids November 20 to rebuild bank building; 25x100 feet; two stories; fireproof construction; cost \$10,000; plans by Adams & Adams, San Antonio, Tex.; architects may be addressed. (Recently reported burned.)

Tex., Kingsville.—St. Louis, Brownsville & Mexico Railroad awarded contract to Manhattan Construction Co., Kansas City, Mo., to erect office building; two stories; steel and concrete; cost \$60,000. (Previously noted.)

Va., Fredericksburg.—Philip N. Stern, Fredericksburg, is preparing plans for bank building; 21x42 feet; two stories and basement; ordinary construction; steam heat; slag roofing; interlocking rubber tile floor; plate glass; gas and electric lighting; reinforced concrete vault; metal ceiling; cost \$60,000; will open bids about December 1. Architect may be addressed.

W. Va., Elm Grove.—State Bank of Elm Grove is reported to erect bank and office building.

CHURCHES

Ala., Birmingham.—Congregation Emanuel has plans by William C. Weston, Birmingham, for temple; Italian Renaissance; five entrances; tapestry brick and granite; outer and inner dome of Gustavino tile construction; main auditorium doors of bronze; two lobbies; sunken garden on 21st side of structure; steam heat; indirect system of lighting; lights not visible; main auditorium to seat 900 to 1000; main Sunday-school room

to seat 450; 100 feet from grade level to top of dome; front held up by four granite monoliths; 12 granite steps leading from grade level to main auditorium; cost about \$80,000; Samuel Adler, chairman of building committee. (Previously noted.)

Ala., Guin.—Baptist congregation will remodel edifice; erect additional story, construct new choir loft and extend building 13 feet. Address The Pastor, Baptist Church.

Ark., Texarkana.—Revs. W. M. Harris, J. F. Staunton and W. H. Bell are interested in organization of church; plan to erect edifice.

D. C., Washington.—St. Paul's Catholic Church, 15th and V Sts., Rev. James F. Mackin, pastor, will erect additional church, probably near Connecticut Ave. Bridge.

Fla., Key West.—Sparks Chapel congregation has plans by Key West Construction Co. for edifice; reinforced concrete; tile roof; electric lighting; cost \$15,000; built on percentage basis. (Previously noted.)

Md., Baltimore.—Calvary Evangelical Lutheran Church is having tentative plans prepared by Jacob F. Gerwig, 210 E. Lexington St., Baltimore, for edifice at Payson St. and North Ave. to replace present structure; one story and basement; stone; Maryland granite and Indiana limestone trimmings; stained-glass windows; slate or tile roof; reinforced concrete; electric lights; steam heat.

Md., Lutherville.—St. John's Methodist Episcopal Church has plans by Emory & Nusser, 415 Professional Bldg., Baltimore, Md., for proposed edifice; one and a half stories; brick and stone; hardwood interior finish; contractors estimating are John J. Walsh & Son, 1533 Maryland Ave.; John Cowan, 106 W. Madison St.; L. J. Brown, Finlico Bldg., near Belvidere Ave., and D. M. Andrew Company, Mt. Vernon Ave. and 28th St., all of Baltimore.

Miss., Jackson.—First Methodist Church, Rev. A. F. Smith, pastor, will receive competitive plans from architects for edifice; cost \$65,000; W. H. Watkins, chairman of building committee.

N. C., Greensboro.—St. Andrew's and St. Barnabas' Episcopal churches united and will erect central edifice. Address The Rectors of St. Andrew's or St. Barnabas' Episcopal Churches.

S. C., Anderson.—St. John's Methodist church (recently noted as to be erected) is nearing completion.

S. C., Orangeburg.—St. Paul's Methodist Episcopal Church has plans by Mr. Steward, St. Petersburg, Fla., for Sunday-school building; 50x50 feet; mill construction; steam heat; electric lighting; cost \$10,000 to \$13,000; date of opening bids not set; J. L. Sims, chairman of committee; material partly purchased. (Recently noted.)

S. C., Walhalla.—Walhalla Baptist Church will remodel edifice; W. M. Brown, chairman of committee.

Tenn., Jellico.—First Baptist Church is having plans prepared for edifice to cost \$20,000. Address Pastor of the First Baptist Church.

Tenn., Paris.—Presbyterian Church will erect 50x70-foot edifice; hot-air heat; electric lighting; cost \$10,000; plans not made; Charles E. Stoaks may be addressed. (Recently noted.)

Tex., Dallas.—All Saints' Episcopal Church, Rev. F. L. Carrington, rector, will erect edifice.

Tex., Dalhart.—First Baptist Church is having plans prepared by Ray & Berry, Amarillo, Tex., for proposed edifice; cost \$12,000.

Tex., Denison.—St. Patrick's Catholic Church, Rev. P. M. Donohoe, pastor, will erect edifice to replace structure reported burned at loss of about \$80,000.

Va., Pulaski.—Methodist congregation is planning to erect edifice in East Pulaski on north side of Pear Creek. Address The Pastor, Methodist Church.

CITY AND COUNTY

D. C., Washington.—Station-house.—District Commissioners will open bids and let contract about December 1 to remodel police station, including installation of new steel cells; fireproof; steam heat; cost \$16,000; plans by municipal architect, District Bldg., Washington. (Previously noted.)

D. C., Washington.—Truckhouse.—District Commissioners will receive bids until 2 P. M. November 15 to erect addition to Engine-House No. 20; plans, specifications and proposal forms from chief clerk engineer department, Room 42 District Bldg.

Fla., Pensacola.—Fire Alarm Station.—Board of Public Works will have plans prepared by W. D. Willis, Pensacola, for proposed central fire-alarm station.

Md., Baltimore.—Markets.—Board of Estimates is considering appropriating \$68,000 for improvements to Belair, Lexington and other markets; plans include repainting, installation of comfort stations in several, etc.; \$35,000 for improvements to Belair market alone, including raising roof, repairs, etc.

N. C., Raleigh.—Market.—City contemplates remodeling municipal and market building; will issue \$35,000 worth of bonds for this purpose. Address The Mayor.

Okla., Duncan.—Jail.—Stephens county defeated \$60,000 bond issue to erect courthouse and jail. Address County Commissioner. (Recently noted.)

Okla., Oklahoma City.—Fire Station.—City awarded contract to J. A. McCall, Oklahoma City, to erect fire station No. 7 at 2500 S. Harvey Ave.; brick; cost \$8650. (Recently noted.)

Tenn., Chattanooga.—Zoo Buildings.—Department of Public Utilities, J. H. Warner, superintendent, is having plans prepared by Adams & Alsop, Chattanooga, for buildings, in East Lake Park, to include main zoo building, number of bear pits, monkey cage, enclosures for deer and elk, separate cage for reptiles, artificial pond for alligators and similar animals; cost about \$30,000.

Tex., Waco.—Fire Station.—City will probably hold an election to vote on bond issue to erect fire station in North Waco. Address The Mayor.

Va., Fredericksburg.—Almshouse.—Almshouse committee, Messrs. Garner, Bradley and Rowe, opened bids to erect almshouse and outbuildings.

W. Va., Fairmont.—Fire Department and City Offices.—City is arranging to erect building for fire department and city offices; 48x80 feet; two stories; ordinary construction; A. C. Lyons, supervising architect, Fairmont; S. B. Miller, City Engineer, in charge, of work.

COURTHOUSES

Mo., Princeton.—Mercer county voted \$75,000 bond issue to erect courthouse. Address County Commissioners.

Okla., Duncan.—Stephens county defeated \$60,000 bond issue to erect courthouse and jail. Address County Commissioners. (Recently noted.)

Tex., Alice.—Jim Wells county is having plans prepared by Atlee B. Ayers, San Antonio, Tex., for courthouse; fireproof construction; cost \$55,000. (Recently noted to vote October 21 on \$55,000 bond issue.)

DWELLINGS

Fla., Anastasia.—U. J. White will erect concrete dwelling, servants' quarters, garage and other outbuildings.

Ala., Birmingham.—C. H. Glasser will expend \$7000 to erect dwelling; two stories; brick; tile roof; day labor. (Recently noted.)

Ark., Little Rock.—V. Sugarman will erect residence at 2210 Broadway St.; two stories and basement; frame and stucco construction; oak floors; tile bathroom; heating plant.

Fla., Jacksonville.—Continental Investment Co. will erect residence; two stories; frame; also two-room addition to two-story residence on Church St. near Jefferson St.

Fla., Jacksonville.—L. V. Benedee will erect residence; two stories; frame.

Fla., Jacksonville.—Mrs. Helen Willis will erect two-story frame residence.

Fla., Jacksonville.—T. J. McIntyre will erect two-story frame residence.

Fla., Jacksonville.—R. D. Drysdale will erect residence; two stories; frame.

Fla., Jacksonville.—F. G. Johnson will erect residence; two stories; frame.

Fla., Jacksonville.—Hedrick Investment Co. will erect two-story brick business building; 50x71 feet.

Fla., Miami.—C. T. McCrimmon will erect 10 dwellings; five rooms and bath.

Ga., Atlanta.—J. H. Whisenant will erect residence; two stories; frame; cost \$3500.

Ga., Atlanta.—Mrs. Georgia Cabaniss will erect residence; cost \$4000; two stories; frame; day labor.

Ga., Atlanta.—Mrs. Joseph Regenstein has plans by Edward E. Dougherty, 1023 Candler Bldg., Atlanta, for dwelling; two stories and basement; brick veneer; white wood and birch finish; heating not decided; slate roof; cost \$15,000; W. P. Francis, 115 Marietta St., Atlanta, is lowest bidder.

Ga., Atlanta.—W. J. Davis will erect two-story frame dwelling; cost \$5000; day labor.

Ga., Atlanta.—Dr. J. N. Norris awarded contract to Fulton County Home Builders,

Candler Bldg., Atlanta, for one-story frame dwelling; cost \$5000.

Ga., Atlanta.—J. B. Daniel will erect two-story frame dwelling; cost \$5000; day labor.

Ga., Cary, R. F. D. from Cochran.—Dr. W. L. Jamison will erect residence.

Ga., Cochran.—T. D. Walker will erect dwelling.

Md., Baltimore.—John S. Bridges, 26-28 S. Charles St., will erect dwelling on Charles St., between 35th St. and University Parkway.

Md., Baltimore.—John J. Watson, 763 Calvert Bldg., is having plans prepared by Herbert C. Aiken, 223 St. Paul St., Baltimore, for 10 cottages at West Arlington and S at Mont Alto; cost about \$30,000.

Md., Baltimore.—Mrs. Mary Mylander, 511 N. Carrollton Ave., has plans by Jacob F. Gerwig, 210 E. Lexington St., Baltimore, for 15 two-story dwellings on Lansdowne St., between Payson and Pulaski Sts.; iron spot brick; 15x55 feet; cost \$30,000.

Md., Baltimore.—J. S. Rawlings, 13-15 Guilford Ave., is having plans prepared by Jacob F. Gerwig, 210 E. Lexington St., Baltimore, for cottage at Fairmont, on Gwynns Falls Rd.; two and a half stories; frame and stucco; 40x50 feet; slate roof; two verandas.

Md., Baltimore.—Patapasco Real Estate Co. is having plans prepared by F. E. Beall, 213 St. Paul St., Baltimore, for 30 dwellings on Smallwood St. and Westwood Ave.; two stories; 14x50 feet; iron-spot brick; cost \$1200 each.

Md., Baltimore.—E. D. Levering of Levering Bros., 210 E. Hughes St., will erect residence at Keltmar Park.

Md., Baltimore.—George Reid, 1631 W. Lexington St., will erect 10 dwellings on Harford Rd. near Beechwood Ave.; two stories; 15x45 feet; cost \$30,000; is having plans prepared by F. E. Beall, 213 St. Paul St., Baltimore.

Md., Catonsville.—R. E. Wood and W. L. Taylor, both of 609-12 Continental Bldg., Baltimore, Md., purchased 230 acres of land on Avalon Rd. between Catonsville and Relay, Md.; will subdivide into villa sites and erect number of cottages.

Mo., Kansas City.—E. Jones will erect dwelling; stone veneer; cost \$4500.

Mo., Kansas City.—T. S. Owen will erect residence; stone veneer; cost \$4500.

Mo., Kansas City.—Phoenix Land & Improvement Co. will erect five frame dwellings; cost \$6050.

Mo., St. Louis.—Hoepffner Investment Co. will erect two dwellings; one story; cost \$1800.

Mo., St. Louis.—Godfrey & Hirsch will erect 15 dwellings on Wise Ave. west of Kings highway.

Mo., St. Louis.—Claude Kilpatrick of Rutledge & Kilpatrick will erect residence at 5183 Portland Pl.; cost about \$100,000; plans by Mauran, Russell & Crowell, St. Louis.

N. C., Brevard.—E. H. Jennings, president of Colonial Trust Co., Pittsburgh, Pa., purchased Toxaway Company's property; will erect number of cottages, etc. (See "Land Developments.")

Okla., Oklahoma City.—H. N. Schofield will erect residence; Oriental brick outer walls; two stories and basement; sleeping porches; conservatory; cost about \$7000.

Tenn., Nashville.—H. F. Smith will erect residence; brick veneer; cost \$10,000.

Tex., Dalworth.—P. O. Grand Prairie, Tex.—Since October 15 twelve residences are under construction at cost of \$36,000. Address the Dalworth Company, L. H. Thompson, secretary and general manager.

Tex., San Antonio.—T. C. Mangham will erect two-story dwelling; cost \$6500.

Va., Chase City.—M. A. Roberts has plans by M. P. Andrews & Co., 40½ Sycamore St., Petersburg, Va., for dwelling; frame; hot-air heat; cost \$4000.

Va., Ford.—I. N. Coleman has plans by M. P. Andrews & Co., 40½ Sycamore St., Petersburg, Va., for dwelling; cost \$7000; construction begun.

Va., Norfolk.—Mrs. George M. Payne has plans by H. Robert Diehl of Lee & Diehl, Norfolk, for bungalow in Larchmont; shingles; brick foundation.

Va., Norfolk.—Mrs. J. S. Bell has plans by Ferguson, Calrow & Taylor, Norfolk, for residence; brick.

Va., Richmond.—B. H. Melton will erect detached two-story brick dwelling. (See "Apartment-Houses.")

Va., Richmond.—C. T. Locher will erect dwelling; two stories; brick; cost \$6000.

Va., Richmond.—W. H. Crawford will erect detached brick dwelling; cost \$3500.

Va., Richmond.—J. Lee Davis awarded contract to C. W. Davis & Bro., Richmond, to erect three detached brick dwellings; cost \$12,000.

Va., Roanoke.—Raleigh Court Corporation will erect bungalow type residence; brick cased; cost \$5000.

Va., Roanoke.—H. H. Huggins will erect residence; colonial style; brick cased; stucco and pebble-dash exterior; hardwood finishings; cost \$8500.

GOVERNMENT AND STATE

La., Algiers, Station A. New Orleans—Immigration Station.—S. E. Redfern, Commissioner of Immigration, has revised plans for immigration station to cost over \$100,000; concrete and steel with brick veneer; will include two-story residence for Commissioner. (Previously noted.)

Md., Baltimore—Warehouse.—State Tobacco Warehouse Commission opened bids for concrete flooring and pavement around State tobacco warehouse on Conway St.; Max B. Muller, 2104 S. Hanover St., Baltimore, is lowest bidder at \$856.55. (Recently noted.)

Tenn., Jordonla (not a postoffice)—Reformatory.—Marr & Holman, architects, 701 St. Nathan Bldg., Nashville, Tenn., will receive bids until noon December 2 to erect buildings at State Juvenile Reformatory; bids in detail and to be accompanied by certified check for not less than 10 per cent. amount of bid; plans and specifications at office of architects as above, Nashville and Memphis (Tenn.) Builders' Exchanges and Chattanooga and Knoxville (Tenn.) Boards of Trade; John H. Dewitt, chairman; B. D. Bell and William C. Kilvington, building committee. (Previously noted.)

HOTELS

Fla., Clearwater.—Garnhardt & Garrah are reported as promoting organization of company to erect hotel.

Ky., Lexington.—C. & J. C. Seelbach of Louisville, Ky., will not at present make extensive improvements to hotel. (Recently noted to have purchased Leland Hotel and to make improvements, including shifting lobby, etc.)

Ky., Paducah.—Illinois Central Railway, A. S. Baldwin, chief engineer, Chicago, Ill., will erect hotel for employees of company's shops; three stories; 20x40 feet; lower floor for kitchen, dining-room and lobby; upper floors to have 200 rooms; steam heat; hot and cold baths; brick veneer walls; metal roof; construction begun.

La., Bogalusa.—W. R. Stallion will erect store and hotel building.

La., Bogalusa.—W. L. Stallion of Varnado, La., will erect hotel and store building.

Md., Chevy Chase.—Chevy Chase to Great Falls Land Co., H. Bradley Davidson, president, 1413 G St. N. W., Washington, D. C., will erect hotel. (See "Land Development.")

Mo., St. Louis.—Samuel M. Bearman is reported to erect hotel.

N. C., Raleigh.—J. H. & T. L. Love are ready to receive bids to erect hotel for colored people recently noted; brick; 62x59 feet; to contain store and barber shop; cost \$15,000; plans by Frank B. Simpson. (See "Machinery Wanted.")

Tenn., Chattanooga.—Mountain Land Co. has plans by Adams & Alsop, Chattanooga, for Signal Point Inn on Walden's Ridge; pink sandstone construction to point about level of second story; above that point stucco finish; red tile roof; veranda; 150x135 feet; two stories; surrounded by cottages of same construction and to accommodate two or more families; foundation begun; C. E. James is interested. (Recently noted.)

Tex., Waco.—W. R. Oram will erect addition to Bristol Hotel; three stories; 80x155 feet; pressed brick; will give hotel 154 rooms.

Va., Virginia Beach.—H. H. Trice & Co., Norfolk, Va., and others have plans by Greenville Temple Snellings, 37 S. 30th St., New York, for proposed hotel to replace burned Princess Anne Hotel; 300 feet long over all; central portion five stories, 42 feet deep; wings four stories, 84 feet deep; basement three feet below grade; gravel cement; frame construction; stucco over wire laths; concrete swimming pool lined with tile; 160 bedrooms; one bath to every five rooms; lavatory with hot and cold water in each room; dining-room and porches adjoining to seat 250 guests; will probably install refrigerating plant; exhaust steam heat; main roof slate; piazza roof, prepared canvas; install high-pressure steam plant to operate dynamo and two electric elevators; maple and North Carolina pine for floors; birch veneered and cypress sash doors for summer use; cost about \$125,000.

MISCELLANEOUS

Fla., Orlando—Sanitarium.—Dr. McEwan will erect sanitarium and office building on Central Ave. and Main St.

Fla., St. Augustine—Publicity.—Board of Trade plans to erect publicity building; rustic style.

Ga., Atlanta—Chapel, etc.—William A. Sims, secretary-treasurer of Hollywood Cemetery Co., 15 E. Alabama St., states that company is proceeding with general improvements to cemetery, including overhauling chapel and office; new building (recently noted) will not be started until spring.

Ky., Lexington.—Dairy Depot.—James B. Haggins will, it is reported, erect dairy depot; four stories; stone; will equip with refrigerating plant.

Md., Chevy Chase—Clubhouse, Lodge, etc. Chevy Chase to Great Falls Land Co., H. Bradley Davidson of Davidson & Davidson, 1413 G St. N. W., Washington, D. C., will erect stone tower and lodge, clubhouse for Chevy Chase Auto Club and hotel. (See "Land Development.")

N. C., Brevard—Clubhouse.—E. H. Jennings, president of Colonial Trust Co., Pittsburgh, Pa., purchased Toxaway Company's property, will erect 20-room clubhouse, etc. (See "Land Developments.")

Okla., Muskogee—Clubhouse.—Federated Women's Club contemplates erection of clubhouse; cost \$5000; plans not definitely determined. (Recently noted.)

S. C., Charleston—Race Track.—Charleston Fair and Racing Association, 229 Meeting St., will establish proposed race track at West's; will erect grandstand, stables, etc.; Mr. Hayes of Louisville, Ky., engineer in charge.

Tenn., Chattanooga—Undertaking.—L. J. Sharp Company will remodel Calumet Club building; will change front doors, placing same in center of structure, install windows to cover entire side fronting on Georgia Ave., etc.

Tenn., Nashville—Nursery.—Tennessee Baptist Orphans' Home (recently noted to erect orphanage consisting of five buildings) is having plans prepared by Thomas J. Davis, 1113 S. Eighth Ave., Nashville, for nursery; one story, basement and attic; brick; stone foundation; steam heat; electric lighting; cost \$4500; contracts let separately; plans will be ready by December 1.

Va., Whaleyville—Barn.—J. H. Vaughan will rebuild barn reported burned; 30x19 feet; mill construction; cost \$500.

W. Va., Princeton—Fair Buildings.—Mercer County Fair Association incorporated with \$25,000 capital stock by H. W. Crockett, J. H. Lilly, J. K. Ball and others.

RAILWAY STATIONS

Ark., Clarendon.—St. Louis & Southwestern Railway Co., C. D. Purdon, chief engineer, Tyler, Tex., will erect depot; cost \$10,000.

Ga., Columbus—Central of Georgia Railroad, C. K. Lawrence, chief engineer, Savannah, Ga., will erect proposed depot.

La., Livonia.—St. Louis & San Francisco Railway, F. G. Jonah, St. Louis, Mo., is reported to erect passenger station.

La., Lott.—St. Louis & San Francisco Railway, F. G. Jonah, chief engineer, St. Louis, Mo., will, it is reported, erect passenger and freight depot.

Okla., McAlester.—Missouri, Kansas & Texas Railway Co., B. B. Fisher, consulting engineer, St. Louis, Mo., will extend and remodel union station.

Okla., Snyder.—St. Louis & San Francisco Railroad Co., F. G. Jonah, chief engineer, St. Louis, Mo., will expend \$35,000 to construct passenger depot and restaurant; pressed brick; tile roof; steam heat; construction begun. (Previously noted.)

Tenn., Chattanooga.—Southern Railway, B. Hermann, chief engineer maintenance of way and structures, 1300 Pennsylvania Ave. N. W., Washington, D. C., will make proposed improvements to freight facilities; rearrange present freight station for inbound freighthouse; erect outbound freight station 250x28 feet; transfer platform 535x14 feet; two team tracks south and three east of inbound freighthouse; four north of outbound freighthouse; ten-ton pillar crane to handle freight to and from two of latter tracks; total capacity of team tracks, 100 cars. (Recently noted.)

SCHOOLS

Ga., Atlanta.—Board of Education, L. M. Landrum, secretary, will receive bids until November 17 at office of architect, Edward E. Dougherty, 1033 Candler Bldg., Atlanta, to erect Tenth Ward school; 112x69 feet;

two stories and basement; brick; slate, tar and gravel roof; hot-air heat; cost \$40,000; certified check for 2 per cent. of bid, payable to city of Atlanta; plans and specifications at office of Edward E. Dougherty, architect, 1033 Candler Bldg., Atlanta; W. M. Slaton, Superintendent of Schools.

Ga., Marietta.—City will vote November 15 on \$20,000 bond issue to erect and equip school; E. H. Clay, Mayor.

Ga., Valdosta.—South Georgia Agricultural, Industrial and Normal College, W. S. West, president of trustees, selected site to erect proposed college.

Ky., Athens.—Fayette County Board of Education will receive bids addressed to Nannie G. Faulconer, chairman, Lexington, Ky., until noon November 10 to erect one-story three-room brick school; certified check for 10 per cent. amount of bid; plans and specifications at office of Superintendent of Schools, second floor of courthouse, Lexington, Ky.; C. J. Graves, chairman, Division A; C. L. Williamson, chairman, Division B; J. B. Beatty, chairman, Division C; P. P. Johnston, chairman, Division D.

Ky., Whitesburg.—Letcher county contemplates erection of high-school building; 70x70 feet; two stories and basement; six or eight recitation rooms; architects are asked to submit plans; James P. Lewis, member of committee.

Mo., Kansas City.—Board of Education purchased site to erect proposed Northeast High School building.

N. C., Kinston.—Board of directors of State School for Feeble-Minded selected Hook & Rogers, Charlotte, N. C., and C. E. Hartge, Raleigh, N. C., to prepare plans for proposed School for Feeble-Minded; Dr. Ira M. Hardy, superintendent, Washington, N. C.

S. C., Greenville.—School trustees will receive bids addressed to T. Q. Donaldson, at office of P. T. Hayne, secretary, until November 20 to erect school in ward 1 on Pinckney St. and addition to Oaklawn school in West Greenville; plans and specifications at office of F. H. and J. G. Cunningham, architects, Cleveland Bldg., Greenville, or may be had on deposit of \$10; certified check for 1 1/2 per cent. amount of bid, payable to T. Q. Donaldson, chairman of trustees; separate bids for heating, plumbing and wiring. (Lately noted.)

Tenn., Rockwood.—City's plans for school building include structure 82x108 feet; mill construction; outside walls 17 inches thick; interior walls to be heavy framed and plastered; probably steam heat; cost \$15,000; plans not complete; W. A. Gasland of Rockwood is architect; construction will not begin until spring of 1912. (Bond issue of \$15,000 recently reported voted.)

Tex., College Station.—Directors of Agricultural and Mechanical College will receive bids until 9 A. M. November 14 to erect engineering building and dormitory; brick and reinforced concrete; cost about \$70,000 each; completion by September 1, 1912; to expedite work, bidders supplied as far as possible with individual sets of plans and specifications; experienced builders will receive plans and specifications on application to F. E. Giesecke, college architect, College Station. (Recently noted.)

Tex., Berclair.—City will erect high school; cost \$10,000. Address The Mayor.

Tex., Denton.—Board of regents of College of Industrial Arts will receive bids until noon November 15 to erect brick and stone household arts and science building; certified check for \$1000, payable to W. B. Bizzell, president; also receive bids at same time for heating and ventilating said building; certified check for \$500 to accompany bids for this work; plans and specifications at office of Endress & Walsh, architects, Bosche Bldg., Austin, Tex., or at office of president of college at Denton, or may be had on deposit of \$2.

Va., Suffolk.—City purchased site to erect proposed East Side school. Address The Mayor.

STORES

Ala., Bessemer.—E. Scaturro will erect store on First Ave.; brick.

Ala., Summerdale.—Baldwin Bros. are receiving bids to erect two-story brick business building; 40x120 feet; lower floor for store; upper floor for warehouse.

Ga., Atlanta.—James T. Lynch will erect two-story brick business building at 54 N. Boulevard; cost \$3000; day labor.

Ga., Atlanta.—Schoen Investment Co. will erect business building; brick; cost \$4000.

Ga., Atlanta.—Byron Sanders will erect business building; cost \$7500.

Ga., Atlanta.—C. C. McHehee, Jr., will, it is reported, erect building to replace burned

structure; possibly three stories; cost about \$30,000.

Ga., Atlanta.—Reuben Arnold and Jack J. Spaulding will rebuild structure reported burned; loss about \$25,000.

Ga., Atlanta.—W. D. Ellis will rebuild business building reported burned; loss about \$10,000.

Ga., Atlanta.—Edward H. Inman awarded contract to Industrial Engineering Co., New York, and Grant Bldg., Atlanta, to erect store building for Davison-Paxon-Stokes Company; eight stories; ferro-concrete; fireproof; Broad St. side to have plate-glass show windows; three elevators; will remodel three-story Whitehall St. front of present structure; plans by W. T. Downing, Atlanta.

Ga., Atlanta.—Harry Hatcher will erect store at 91 Trinity Ave.; two stories; brick; tar and gravel roof; cost \$6000.

Ga., Cary, R. F. D. from Cochran.—Dr. W. O. Williams will erect drug store.

Ga., Dalton.—John T. Hammond will erect store building; three stories. (Recently noted to erect two-story structure.)

Ga., Newnan.—T. G. Farmer is reported to erect store building and warehouse on Jefferson St.

La., Baton Rouge.—J. K. Roumain has plans by Favrot & Livaudais, New Orleans, La., for store and office building; 64x100 feet; fireproof construction; steam heat; electric lighting; direct lift elevator. (Recently noted to receive bids through architects until noon November 30.)

La., Bogalusa.—W. R. Stallion will erect store and hotel building.

La., Bogalusa.—W. L. Stallion will erect hotel and store building.

La., New Orleans.—Edward Gauche will erect store building.

La., Roseland.—Roseland Veneer & Package Co. will open bids about November 15 to erect bank and store building; 80x50 feet; brick; concrete floor; heating not decided; electric lighting; cost \$10,000.

Md., Baltimore.—W. P. Hiem, 616 W. Baltimore St., has plans by Charles E. Cassell, 822 Law Bldg., for store building; 20x30 feet; ordinary construction; hot-air heat; electric lighting; granolithic sidewalks; bids opened November 5; cost \$20,000; owner may be addressed.

Md., Baltimore.—W. P. Hiem, 3004 Evergreen Ter., is having plans prepared by Charles E. Cassell, Law Bldg., Baltimore, for improvements to store at 616 W. Baltimore St.; contractors estimating are Fred Decker & Son, 1209 E. Biddle St.; William Ferguson & Bro., 214 Clay St.; B. W. & E. Minor, 224 W. Pratt St.; George A. Blake, 301 Law Bldg., and Consolidated Engineering Co., Emerson Tower Bldg., all of Baltimore.

N. C., Raleigh.—J. H. & T. L. Love are ready to receive bids to erect store and hotel building; cost \$15,000. (See "Hotels.")

N. C., Rocky Mount.—John L. Arrington has plans by J. C. Stout, Rocky Mount, for business building; two stories; cost \$10,000. (Recently noted.)

N. C., Winston-Salem.—Mrs. J. H. Fariss will erect store building on Liberty St.; cost \$5000 to \$7000.

Tex., Conroe.—J. Wahrenberger Company will erect business building; two stories; brick.

Tex., Dallas.—Otto H. Lang will erect business building; three stories.

Tex., Dallas.—Ancient Free and Accepted Masons will erect store, lodge and office building; construction on commission basis. (See "Association and Fraternal Buildings.")

Tex., Dallas.—Lang & Witchell, Dallas, are preparing plans for business building on Commerce St. between Preston St. and Houston & Texas Central Railroad.

Tex., Dallas.—W. A. Fraser will erect business building; two stories; brick.

Tex., Dallas.—Sam P. Cochran will erect business building; two stories; brick; cost \$17,000.

Tex., Dallas.—R. B. Stichter will erect business building; one story; brick; cost \$6000.

Tex., Dallas.—Dallas Dry Goods Co. is being organized with John R. Cavanaugh president and treasurer to establish wholesale dry goods store; plans to erect eight-story building to cost \$250,000.

Tex., Rockdale.—E. Ferrari will probably erect store building.

THEATERS

D. C., Washington.—Ashley M. Gould, 1911 16th St. N. W.; Thomas C. Bradley, 1420 New York Ave. N. W.; Samuel Ross, 614-22 11th St. N. W.; Bates Warren, 416 5th St. N. W.

and others are interested in erection of theater on I St. facing Franklin Square and to be known as Franklin Square Theater.

Ga., Savannah.—Montgomery Amusement Co., F. Montgomery, president, proprietor of Montgomery Theater, Atlanta, Ga., purchased Odeon and Folly theaters; will erect theater to replace former and improve latter.

Ky., Pineville.—Pineville Building & Amusement Co. incorporated with \$15,000 capital stock by W. L. Moss, D. B. Logan, C. W. Metcalf, N. R. Patterson and others; will erect theater building. (Commercial Club recently reported as having organized company to erect opera-house and office building.)

W. Va., Clarksburg.—Wm. L. Moore of Wheeling, W. Va., plans to rebuild theater previously burned.

WAREHOUSES

Ala., Summerdale.—Baldwin Bros. are receiving bids to erect store and warehouse building. (See "Stores.")

Ga., Concord.—Concord Variety Works, J. H. Lee, president, will reorganize company next spring and erect warehouse, etc. (See "Cotton Compresses and Gins.")

Ga., Newnan.—T. G. Farmer is reported to erect store building and warehouse.

Md., Baltimore.—State Tobacco Warehouse commission opened bids for concrete flooring and pavement around State tobacco warehouse on Conway St.; Max B. Muller, 2194 S. Hanover St., Baltimore, is lowest bidder at \$856.55. (Recently noted.)

Mo., St. Louis.—Charles Ehlermann contemplates erection of warehouse or malt house; cost about \$500,000.

N. C., Gastonia.—Gaston County Farmers' Union Warehouse Co., W. W. Fairies, president, will probably erect addition to warehouse.

N. C., Eagle Springs.—C. R. Harris will erect two-story brick cotton-storage warehouse of ordinary construction.

N. C., Pollockville.—Farmers' Union Co. incorporated with \$100,000 capital stock by M. N. Harriett, E. B. Elliott and others.

Okla., Oklahoma City.—N. S. Sherman Warehouse Co. organized to erect proposed warehouse at Main and Santa Fe Sts.; five stories; 243x140 feet; fireproof; steel and concrete; construction to permit erection of additional stories later; sprinkler system; floors to carry 200 to 500 pounds per square foot; 200,000 square feet floor space; cost about \$275,000.

S. C., Ellmore.—Standard Warehouse Co. (recently reported incorporated with \$10,000 capital stock by W. M. Fair and others) will erect cotton warehouse; 80x180 feet; mill construction; cost \$5000; plans by W. K. Dunn, Sumter, S. C.; bids opened November 7. (See "Machinery Wanted.")

S. C., Walterboro.—Farmers' Mercantile & Warehouse Co. incorporated with \$25,000 capital stock by H. H. Bentz, J. E. Pearlfay and J. D. Fisher.

Va., Petersburg.—Appomattox Iron & Supply Co. has plans by M. P. Andrews & Co., 40½ Sycamore St., Petersburg, for proposed warehouse addition; cost \$5000; construction begun.

Tex., Tyler.—Dabney White will erect cotton warehouse; 100x100 feet; fireproof construction; cost \$2500; plans and construction by owner; 100x100-foot compartments to be added later. (Recently noted.)

brick and shingle; hot-water heat; electric lighting; cost \$4000.

Va., Richmond.—Charles T. Loehr will erect two-story detached brick dwelling; 20x30 feet; semi-fireproof construction; cost of heating plant \$1000; gas and electric lighting; cost of dwelling \$7000; plans by Ashbury & Whitehurst; contract awarded to R. A. Siewers.

GOVERNMENT AND STATE

Ala., Mobile.—Lock-tenders' Houses.—C. F. Flagler, Major, Engineer, awarded contract to George Vise, Tuscaloosa, Ala., to erect four lockhouses at completed locks on Warrior River; cost \$10,000. (Recently noted.)

Ky., Winchester.—Postoffice.—United States Government will expend \$100,000 to erect postoffice; 66x76 feet; fireproof construction; steam heat; electric lighting; granolithic sidewalks; James Knox Taylor, supervising architect, Washington, D. C.; contract recently noted awarded to John G. Unkfer & Co., Minerva, O. (See "Machinery Wanted.")

N. C., Raleigh.—Administration.—State Building Commission awarded contract at \$188,000 to John T. Wilson, Richmond, Va., to erect State administration building; Indiana limestone; metal window frames, sashes and doors; building 61x192 feet; four stories and basement; extension of present heating and lighting plant; two electric elevators; capacity 3000 pounds; 150 feet per minute; plans by A. Thornton Marye, Equitable Bldg., Atlanta, Ga.; Frank B. Simpson, associated architect, Raleigh; Glenn Bros., consulting architect, 806 17th St. N. W., Washington, D. C. (Recently noted.)

W. Va., Point Pleasant.—Federal Building. Treasury Department, James Knox Taylor, supervising architect, Washington, D. C., awarded contract at \$61,635 to Harmon Bros., Williamsport, Pa., to erect Federal building; two stories; ground area 5500 square feet; fireproof construction; brick; stone trimmings; lighting and heating to cost \$750 additional. (Recently noted.)

HOTELS

N. C., Lake Toxaway.—E. H. Jennings, president of Colonial Trust Co., Pittsburgh, Pa., purchased Toxaway Company's property and awarded contract to E. F. Gillespie of Brevard, N. C., for improvements to Toxaway Inn, including repainting, 40 additional bathrooms, redecorating, tile flooring, enameling walls in waterproof, baking-room, etc. (See "Land Developments.")

MISCELLANEOUS

Md., Baltimore.—Stable.—American Ice Co., 309-19 Calvert Bldg., awarded contract to John K. Melver, 309 Wilson Bldg., Baltimore, to erect stable on Franklin St. near Pulaski St.; two stories; brick; 242.2x60.10 feet; slag roof; brick cornice; cost \$10,000.

Mo., St. Louis.—Restaurant.—Tallahassee Realty Co. will erect restaurant building on Broadway adjoining LaSalle Bldg. to be occupied by John R. Thompson of Chicago, Ill.; awarded contract to W. L. Winner, St. Louis, for construction; plans by E. C. Kilpstein, St. Louis, call for structure three stories; fireproof construction; interior fitted with marble; cost about \$50,000.

S. C., Spartanburg.—Clubhouses.—J. F. Burgess awarded contract to T. W. Mughston, Spartanburg, to erect garage and club building. (See "Motors and Garages.")

Va., Suffolk.—Hospital.—Drs. Hart and Morrison awarded contract to W. S. Tebo to erect hospital; brick; electric elevator; steam heat; cost \$14,000; plans by Burwell Riddick. (Previously noted.)

SCHOOLS

Md., Brunswick.—City awarded contract to H. B. Funk, Brunswick, to erect high school; two stories; brick and stone; cost about \$30,000; plans by A. C. Leach, 323 N. Charles St., Baltimore, Md.

N. C., Winston-Salem.—Salem Academy and College will expend \$6000 to erect dormitory; 36x36 feet; three stories; ordinary construction; pressed brick; colonial design; tile roof; plans by W. C. Northrup, Winston-Salem; contract recently noted awarded to Fogle Bros. Company, Winston-Salem.

Tex., Gatesville.—State Institute for Training Juveniles awarded contract at \$22,250 to L. F. Johnson, Denton, Tex., to erect dormitory; at \$2386 to J. L. Martin, Austin, Tex., for plumbing and electrical work; at \$2297 to Kinns Bros., Dallas, Tex., for painting; has \$30,000 appropriation; plans by C. H. Page & Bro., Austin, Tex. (Previously noted.)

STORES

Ark., Little Rock.—T. M. Sanders, architect, Little Rock, awarded contract to Loftus Collamore, Little Rock, to erect proposed business building at Capitol Ave. and Center St.; three stories; faced on two sides with white enamel brick; cost \$40,000.

Fla., Key West.—D. Aronovitz will expend \$12,000 to erect reinforced concrete and brick store building; 53x75 feet; two stories; electric lighting; contract recently noted awarded to Key West Construction Co. of Key West, which also prepared plans.

Tex., Berclair.—Patricia Martinez awarded contract to erect proposed two-story business building.

Tex., Conroe.—Mrs. J. W. Collier of Silsbee, Tex., awarded contract for erection of business building; brick.

Tex., Eagle Lake.—Eagle Lake Lodge, Ancient Free and Accepted Masons, awarded contract to G. W. Keith, Eagle Lake, to erect store and lodge building. (See "Association and Fraternal.")

Tex., Yoakum.—Scheonberg & Hobbs awarded contract to Charles Fuess & Son to erect store building.

Tex., Yoakum.—John Tucker awarded contract to Bolton & Stephenson to erect three one-story brick business buildings. (Recently noted.)

Va., Lynchburg.—Jones & Adams, Lynchburg, have contract to erect business building to be occupied by A. S. White & Co.

Va., Suffolk.—Nansmond Grocery Co. awarded contract to George Borum to erect additional stories to building; cost \$9000.

Va., Petersburg.—Mrs. J. O. Borham awarded contract for improvements to brick stores; plans by M. P. Andrews & Co., 40½ Sycamore St., Petersburg.

Ky., Elkton.—Union Benevolent Protective Society awarded contract to Owensboro (Ky.) Planing Mill Co. to erect store and lodge building. (See "Association and Fraternal.")

THEATERS

N. C., Winston-Salem.—Jones, Hill & Hall awarded contract to Pike & Bullard to erect theater; two stories; 30x30 feet; electric lighting; cost \$4200.

S. C., Aiken.—Aiken Theater Co. awarded contract to H. C. Van Orem & Son, Pittsburg, Pa., to erect theater; three stories; first floor for stores, box office, etc.; opera-house proper to contain parquet to seat 600, with dress circles and usual tiers of galleries; plans by G. Lloyd Preacher, Augusta, Ga. (Recently noted.)

Tex., Lockhart.—Williams & Motheral awarded contract to Avey & Co., San Marcos, Tex., to remove opera-house, recently purchased, to N. Commerce St.; also awarded contract for inside remodeling to Morgan Swearingen, Lockhart; cost of improvements, about \$5000.

WAREHOUSES

Va., Richmond.—Southern Express Co. has plans by and awarded contract to G. A. Filler to erect warehouse; 127x42 feet; ordinary construction; cost \$9000. (Recently noted.)

Va., Suffolk.—Martin & Son awarded contract to A. Stallings to erect brick peanut warehouse; cost \$11,000. (Previously noted.)

W. Va., Huntington.—Huntington Wharf Storage Co. awarded contract to Edward Bell, Huntington, to rebuild freight warehouse; 60x200 feet; storm sheeted and metal siding; electric lighting; hydraulic elevator; cost \$5000; plans by J. C. Carter; all contracts let. (Recently reported burned.)

A Representative Business School.

The 33d year of the Eaton & Burnett Business College, Baltimore, has begun with the usual increase in the number of pupils that attend this representative business school. The annual enrollment is from 300 to 400 pupils, and includes students from Maryland, Virginia, West Virginia, Delaware, North and South Carolina and other Southern States, and from Mexico, Cuba and Porto Rico. Its curriculum includes all the elementary studies of a business course, and in addition the higher practical studies pertaining to banking, commercial law and legal forms, business forms and customs, etc. Special attention is given to producing practical results in the bookkeeping, shorthand and typewriting departments. The 33d-year catalogue has been issued, containing full statement of studies, tuition and methods of teaching, together with views of classrooms, the "College Bank" and the typewriting department. This catalogue will be sent to interested persons on request.

BUILDING CONTRACTS AWARDED

ASSOCIATION AND FRATERNAL

Ky., Elkton.—Union Benevolent Society awarded contract to Owensboro Planing Mill Co., Owensboro, Ky., to erect store and lodge building; 56 feet long; brick; Winchester white brick front; lower floor for store; upper floor for lodgerooms.

Tenn., Chattanooga.—Young Women's Christian Association awarded contract at \$49,500 to T. S. Moody & Co., Chattanooga, to erect building; at \$2450 to Tom Wilcox Plumbing Co., Chattanooga, for Warren Webster heating system; at \$2225 to Pechman & Pechman, Chattanooga, for plumbing; brick walls; reinforced floors; cast-iron columns; steel frames; running track; elevator; tile roof; terra-cotta cornices; plans by Barnwell & Jones, Chattanooga. (Recently noted.)

Tex., Eagle Lake.—Eagle Lake Lodge, Ancient Free and Accepted Masons, awarded contract to G. W. Keith, Eagle Lake, to erect lodge building; two stories; brick; cost \$10,000; lower floor for stores; upper floor for lodgerooms. (Previously noted.)

BANK AND OFFICE

Tex., Dallas.—J. N. Simpson awarded contract at \$116,455.35 to Hughes-O'Rourke Construction Co., Dallas, to erect office building; at \$10,597 to Kinnison Bros., Dallas, for heating; at \$12,603.68 to P. J. Sheehan & Co., Dallas, for plumbing; seven stories; concrete; total cost about \$175,000. (Previously noted.)

CHURCHES

Tex., Bardwell.—Church of Christ awarded contract to Stovall & Whittington, Bardwell, to erect edifice recently noted; 62x62 feet; ordinary construction; electric lighting; stoves; cost \$3888; plans by Hicks McCaless, Ennis, Tex.; construction begun. (See "Machinery Wanted.")

Tex., Yoakum.—Catholic congregation has awarded contract to South Texas Lumber Co., Houston and Yoakum, Tex., to erect edifice.

CITY AND COUNTY

Tenn., Erwin.—Jail.—Unico county awarded contract to George G. Smith, Asheville, N. C., to erect jail; 32x49 feet; semi-fireproof construction; steam heat; cost \$10,000; plans by Mr. Smith. (Recently noted.)

COURTHOUSES

Ark., Clarendon.—Monroe county, H. B. Bateman, commissioner, awarded contract to Falls City Construction Co., Louisville, Ky., to erect courthouse; fireproof construction; electric lighting; grey pressed brick; tile roof and floor; cost \$118,000; plans by Charles L. Thompson, Little Rock, Ark. (Appropriation of \$118,000 recently noted.)

DWELLINGS

Ark., Little Rock.—Gideon Marx awarded contract to T. F. Campbell, Little Rock, to erect dwelling; 28x31 feet; mill construction; plans by William Dill, Little Rock. (Recently noted.)

Fla., Palm Beach.—W. E. Moorehead of Des Moines, Iowa, awarded contract to J. I. MacDonald, West Palm Beach, Fla., to erect residence in Royal Park; cost about \$7000.

Fla., St. Augustine.—Henry Rohde, 72 Haywood St., Asheville, N. C., awarded contract to William Fishnick, King St., St. Augustine, to erect five cottages; five rooms, bath and pantry; electric lighting; cost \$1270 each; plans by Mrs. L. A. Rohde, 31 Cincinnati Ave., St. Augustine. (Recently noted.)

Ga., Atlanta.—S. S. Bessman awarded contract to Phillips & Moody to erect dwelling; one story; cost \$3750.

Md., Baltimore.—H. W. Hoffe awarded contract to J. Henry Smith, 1426 Light St., Baltimore, to erect two-story frame cottage at Dyer Drive and Chapel Gate lane, Ten Hills; 105x26 feet; mill construction; hot-water heat; electric lighting; cost \$7000; plans by Glidden & Friz, Glenn Bldg., Baltimore, Md.

Md., Baltimore.—George M. Hay, 12 N. Greene St., awarded contract to Frank H. Callaway, Garrison Ave., opposite Kelo Home, Baltimore, to erect 2½-story frame cottage on Springdale Ave., between Forest and Granada paths.

Md., Baltimore.—West Forest Park Company, Garrison Ave., opposite Kelo Home, awarded contract to Frank H. Callaway, Garrison Ave., opposite Kelo Home, Baltimore, to erect 2½-story cottage and one bungalow on Springdale Ave., between Clarendon Ave. and Forest path; construction begun.

Md., Baltimore.—Francis M. Miller, 2137 N. Fulton Ave., awarded contract to J. C. Gardiner, 1813 W. Saratoga St., Baltimore, to erect cottage; two stories; frame.

Md., Towson.—Towson Methodist Protestant Church, Rev. H. F. Wright, pastor, awarded contract to M. M. Merryman to erect parsonage; 28x30 feet; frame; steam heat; electric lighting; cost \$3400. (Recently noted.)

N. C., Winston-Salem.—R. E. Follin awarded contract to Paul Miller for proposed dwelling; two stories; eight rooms; frame; electric lighting; cost \$3300.

Tex., Gollad.—Judge Stradle awarded contract to W. S. Champion, Gollad, to erect residence.

Va., Norfolk.—George M. Payne awarded contract to Charles H. Lowe, 454 Hamilton Ave., Norfolk, to erect bungalow; cost \$3000.

Va., Norfolk.—Luther Edmonds awarded contract to Charles H. Lowe, 454 Hamilton Ave., Norfolk, to erect dwelling; 10 rooms;

RAILROAD CONSTRUCTION

RAILWAYS

Ala., Tuscaloosa.—The Kaul Lumber Co., says a letter to the Manufacturers Record, has let contract for six miles of standard-gauge railroad to P. W. Turner of Birmingham. More construction is planned and contractors are investigating preparatory to making bids.

Ark., Jonesboro.—The Jonesboro & Nettleton Interurban Railroad Co. is reported to have let contract to Hemmingsway & Co. for its five-mile line connecting the two points named. J. E. Thompson of Jonesboro is vice-president.

D. C., Washington.—Grading is reported begun near Cherrydale by the Washington & Old Dominion Railway to connect the Great Falls & Old Dominion Railway with the Bluemont branch of the Southern Railway recently reported leased by the first-named company. C. M. Hendley, 1517 H. St. N. W., Washington, is president.

Fla., Dunnellon.—The Atlantic Coast Line is reported to have completed its third and last survey between Dunnellon and Otter Creek, about 30 miles, on its proposed connecting line to Wilcox, about 60 miles altogether. Engineers are still at work between Otter Creek and Wilcox. A connection is also to be made between Perry and Monticello, about 30 miles, and these links, with existing roads, will complete through line between western points and Tampa and Fort Myers, Fla. Grading is to start soon. E. B. Pleasants, Wilmington, N. C., is chief engineer.

Fla., Palm Beach.—W. W. Marquis, 227 Midland Bldg., Kansas City, Mo., says that the Palm Beach, Okeechobee & Western Railway Co. proposes to build about 140 miles of line from Palm Beach to Fort Meyers, Fla. Route not definitely located. Incorporators: R. J. Martin, president; J. H. Borders, vice-president; John Matthews, secretary and treasurer; W. W. Marquis, general manager, all of Kansas City, and T. J. Campbell of Palm Beach.

Fla., Panama City.—George A. Smith of Panama City says he wants information as to building a gasoline traction railroad to connect Panama City, Millville, St. Andrews and Lynn Haven, Fla., 14 miles.

Fla., Pensacola.—Roy C. Megargel, president of the Gulf, Florida & Alabama Railroad, 5 Nassau St., New York, advises that 63 miles of the line proposed from Pensacola, Fla., to Jasper, Ala., 295 miles, are now built. The contractors are Charles Merritt and the Eastern Construction Co., both of Pensacola. Line will run via Alamo, Greensboro and Tuscaloosa. Two drawbridges will be required, one over the Alabama and the other over the Warrior River. Other officers are W. H. Knowles and John Stillman of Pensacola, vice-presidents; W. K. Hyer, Jr., treasurer; Henry Hyer, secretary, and Geo. A. Berry, chief engineer. Directors include the first three officers and W. S. Keyser, W. A. Blount, A. M. Avery and Wm. Fisher, all of Pensacola.

Ga., Bostwick.—Reported that estimates are being prepared by contractors for the contemplated extension of the Bostwick Railroad to Monroe. It now runs from Apalachee to Bostwick. R. L. Mobley is receiver.

Ga., Gainesville.—The Byrd-Matthews Investment Co., St. Louis, Mo., writes that it is handling proposition for building Gainesville & Northwestern Railroad (which latter company is not yet organized) from Gainesville, Ga., north to timber lands via Concord and Cleveland, 35 miles. Major J. F. Brooks, Cleveland, Ga., is chief engineer. Bids now being received for construction, and contracts will be let in 10 days or sooner. One bridge required over Chattahoochee River. Country rolling. All communications to be addressed to the Byrd-Matthews Investment Co., St. Louis. Profiles and specifications can be seen either at its office or at office of Major Brooks. R. M. McCombs is president and general manager of the Byrd-Matthews Investment Co.; A. R. and J. H. Byrd and C. D. Matthews are vice-presidents; A. R. Byrd, Jr., secretary; C. D. Matthews, Jr., treasurer; E. C. Matthews, assistant treasurer.

Ga., Hawkinsville.—The Hawkinsville & Western Railway, which recently filed a mortgage to secure \$200,000 of 5 per cent. bonds for its proposed line from Hawkinsville to Perry, 22 miles, is reported to have completed five miles of track, and the line from Grovania to Perry is under contract, work to start January 1.

Ga., Hinesville.—Joseph B. Way of Flemington is reported planning a 25-mile rail-

road to run from either McIntosh or Waltherville, on the Atlantic Coast Line via Hinesville and Taylor's Creek to some point on the Seaboard Air Line.

Ga., Lafayette.—The Tennessee, Alabama & Georgia Railroad, it is reported, contemplates building a branch from Hillsdale to Lafayette, about 2½ miles. E. F. Blomeyer is general manager at Chattanooga, Tenn.

La., Jena.—F. W. Green, general manager of the Louisiana & Arkansas Railway Co., Stamps, Ark., writes that the company's extension is being constructed from Jena, La., to Jonesville, La., 22 miles. Contract for bridges over Little River and Black River has been let by Waddell & Harrington, consulting engineers, of Kansas City, Mo., to the Union Bridge & Construction Co. of Kansas City. He denies press report saying that extension was from Mena, Ark., to Jonesville.

Miss., Walthall.—T. H. Jones of St. Louis, general agent for the proposed Memphis & Gulf Railroad, with headquarters at Meridian, Miss., is reported promoting the line by meetings along the route. C. H. Pond of Moorehead, Miss., and others are interested.

Mo., Kansas City.—The Chicago Great Western Railway, it is reported, will build a bridge 966 feet long across the Kaw River; also a subway. L. C. Fritch is chief engineer at Chicago, Ill.

N. C., Asheville.—John N. Shoolrell and H. Rotha of Waynesville, N. C., are reported to have finished preliminary survey for the proposed railroad between Black Mountain and Mt. Mitchell, 15 to 20 miles. J. C. Campbell of Marion, Va., and others are interested.

N. C., Brevard.—E. H. Jennings of Pittsburgh is reported contemplating improvements to the Toxaway property, including the construction of an electric railway to connect the Toxaway Inn, Fairfield Hotel and Sapphire Inn.

N. C., Charlotte.—W. S. Lee, vice-president of the Piedmont Traction Co., says that while the railroad has been projected beyond Charlotte to Durham, there is no work being done there. Construction is in progress between Charlotte and Kings Mountain, N. C., and between Spartanburg and Greenwood, S. C.

N. C., Concord.—Bird S. Coler of New York, president of the North Carolina Public Service Co., is quoted saying that an extension of the Concord Railway will be made immediately. As to the proposed line from Concord to Salisbury, he said he could not now name a date for beginning construction. T. J. Jerome and T. H. Vanderford of Salisbury, N. C., and J. P. Clark of New York are also interested.

N. C., Winston-Salem.—President H. E. Fries of the Winston-Salem Southbound Railroad says that about two miles of track are to be built from the main line to town. It may include a bridge. Date not set for bids. All materials on hand. E. B. Pleasants, Wilmington, N. C., is chief engineer. A press report says that franchise for the extension is granted.

Okla., Tulsa.—W. C. Eakin, representing Thos. Nevins & Sons of New York, is reported investigating with J. W. Orr of Tulsa, Okla., as to construction of electric railways out of Tulsa. It is further said that a merger of the Oklahoma Union Traction Co. and the Sapulpa & Interurban Railroad is planned, and that a line may be built from Tulsa to Sapulpa, and also to Okmulgee. Among others reported interested are A. A. Small, president of the Oklahoma Union Traction Co.; Birch C. Burnett, president of the Sapulpa & Interurban; F. Letcher, J. L. Orr, Thomas White, Bates B. Burnett, R. V. Miller and Virgil Hicks.

S. C., Hartsville.—Grading is reported begun from Hartsville via Lydia and Bishopville for the proposed line of the South Carolina Western Railway to Sumter.

S. C., Greenville.—The Greenville & Knoxville Railway is reported to have let contract to Case & Brine of Atlanta for concrete work on the underpass at Reedy River.

S. C., Greenville.—Charter has been filed for the Greenville Augusta Construction Co. to build the proposed railroad from Greenville via Greenwood, S. C., to Augusta, Ga.; capital \$5000; petitioners, J. P. Charles, W. M. Briggs, Jr., and J. T. Blasingame of Greenville. J. C. Fossett of New York is among those reported interested in the railroad, for which financing is arranged.

Tenn., Chattanooga.—In connection with its new freight station plans the Southern Railway will build nine team tracks with a total capacity of 100 cars. W. H. Wells is

chief engineer of construction at Washington, D. C.

Tenn., Mount Pleasant.—The Middle Tennessee Railroad has completed its track and operated its first train into Mount Pleasant, 28 miles from Leatherwood, the beginning of the road. Reported will now build from Leatherwood to Perryville via Little Lot and Centerville. J. H. Carpenter of Columbia, Tenn., is president.

Tex., Corpus Christi.—Col. Ernie Lott of Brownsville, Tex., and associates, after meeting at Corpus Christi, have, it is reported, decided to immediately form a construction company to build the railroads he proposes from San Antonio via Oakville and Kingsville to Brownsville and Rio Grande City; from Kingsville via Corpus Christi to Temple and Fort Worth, and also from Corpus Christi to Mustang Island at Port Arthur for a deep-water terminal. Several short but important branches are included. Total length of lines proposed about 500 miles. Survey is expected to begin in 10 days.

Tex., Dallas.—J. F. Strickland of Dallas, president of the Southern Traction Co., is reported saying that the line to connect Dallas, Waxahatchie and Waco will be 134 miles long and will cost about \$5,200,000. It is intended that 20 per cent. of the cost shall be subscribed along the route, while Eastern capital will take care of the rest. Subscription committees are at work.

Tex., El Paso.—W. E. Anderson and R. L. Dorbant are reported to have obtained 60 per cent. of right of way for the proposed interurban railway from El Paso to Clint, and survey is progressing.

Tex., Fort Worth.—The Fort Worth & Southwestern Railway Co. has been chartered to build a line from Fort Worth to Engle Pass, Tex., about 350 miles. Capital \$400,000. Incorporators, W. D. Morton, L. A. Wright and J. H. Farr of Glen Rose, Tex.; J. M. Goldston of Milford, Tex.; W. B. Harrison and W. B. Paddock of Fort Worth; D. C. Morris of Walnut Springs, Tex., and M. W. Shuler of Waco, Tex.

Tex., Gainesville.—E. B. Blanton, president of the City Loan & Trust Co., Gainesville, writes that a syndicate which he represents is now forming to build the Gainesville, Tioga & McKinney Railway, and if the bonus required of the towns en route is met, construction will begin within a few months.

Tex., Houston.—Bids will be received until noon November 15 to build 13 miles of branch railroad in Lee county, Texas, this being part of the Houston & Texas Central Railroad's line proposed between Stone City and either Lincoln or Giddings. About 500,000 cubic yards of material will have to be handled. E. B. Cushing is chief engineer of construction at Houston, Tex.

Tex., Quanah.—Sam Lazarus of St. Louis, president of the Quanah, Acme & Pacific Railway, is quoted saying that he is endeavoring to finance the construction of a proposed extension from Paducah, Tex., for 25 or 30 miles.

Tex., Marshall.—J. E. Votaw, vice-president and general manager Marshall & East Texas Railway, says that nothing has been decided about the proposed extensions to Newton and Paris, Tex. This refers to the report indicating that they might soon be started.

Tex., San Antonio.—Walker Stansell of San Angelo, Tex., and Memphis, Tenn., is reported saying that he has interested French capitalists in the proposition to build

a railroad between San Antonio and Brownsville, Tex., but they want a clear field. At present English capital is figuring on building a line from San Antonio to Rockport, with a branch to Brownsville.

Tex., Sweetwater.—The Kansas City, Mexico & Orient Railway, it is reported, will issue \$20,000,000 of gold notes for general construction, including lines in Texas and Mexico. Considerable of the issue is placed in Paris. W. W. Colpitts is chief engineer at Kansas City, Mo.

Va., Winchester.—The Cumberland Valley Railroad denies press reports that it contemplates additional improvements to its line in Virginia.

Va., Norfolk.—Reported that the Norfolk Southern Railroad contemplates the construction of an extension to the State ridge range on the coast at a cost of not more than \$25,000. F. L. Nicholson is chief engineer at Norfolk, Va.

Va., Richmond.—A petition is before the City Council to permit the Richmond, Urbanna & Peninsular Railroad Co. to purchase the Seven Pines line of the Virginia Railway & Power Co., and the former is reported to have let contract for 15 miles of its proposed 50-mile line. John C. Robertson of Richmond and Forest Hill and others are reported interested.

Va., Roanoke.—The stockholders of the Roanoke & Mt. Airy Railroad, at their annual meeting just held, have decided to push plans for construction as rapidly as possible, the directors being instructed to proceed with financial arrangements. A. L. Silbert is president; R. H. Angell and R. L. Haymore, vice-presidents, the latter at Mt. Airy, N. C., and L. C. Stewart, secretary and treasurer.

STREET RAILWAYS

Fla., Tampa.—J. C. Woodsome, manager of the Tampa Electric Co., is quoted as saying that Stone & Webster have planned a number of improvements, including extensive plans for extension of tracks to the new union station.

Ga., Waycross.—A dispatch says that L. J. Cooper, W. W. Lambdin, George W. Deen and J. L. Swent will file petition to charter the Southeastern Construction Co. to build the proposed street and suburban railway. Capital \$100,000.

Tenn., Harriman.—The Harriman-Morgan Railroad Co. is chartered to build, purchase, own, lease and operate a railroad from Oliver Springs west via Confield and Crooked Fork Valley to a point near the intersection of Morgan, Scott and Anderson counties, Tenn., and thence north to a point on the Ohio River, about 200 miles; capital \$10,000; incorporators, Claude E. Hendrick, James R. McDowell, William J. Clarke, Joseph N. Baker and Robert B. Cassell; headquarters at Harriman. Mr. Hendrick is president of the Harriman & Eastern Railroad, now being completed between Harriman and Oliver Springs.

Tex., Houston.—David Dally, manager, is reported saying that the Houston Electric Co. (a Stone & Webster corporation) will spend \$750,000 for improvements and extensions of the street railway before the end of next year.

Va., Petersburg.—The Virginia Railway & Power Co., it is reported, proposes to extend the Halifax St. line to Hawk St., and also the Sycamore St. track to the Walnut Hill viaduct. John E. Harrell is superintendent.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Manufacturers and others in need of machinery or supplies of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery or supplies needed we will make their wants known free of cost, and in this way secure the attention of manufacturers and dealers throughout the country. The Manufacturers Record has received during the week the following particulars as to machinery and supplies wanted.

Bench-leg Castings.—Baltimore (Md.) Board of Awards will receive bids at office of City Register, City Hall, until 11 A. M. November 15 for furnishing to Park Department bench-leg castings and bench strips; will require about 1000 castings and 2500 bench strips; certified check \$200; William S. Manning, general superintendent Park Commission.

Boiler.—Box 165, Lynchburg, Va., wants second-hand 80-horse-power boiler; standard make for high pressure steam; sold under Hartford inspection.

Boilers, etc.—Bids will be received at United States Engineer Office, Charleston,

S. C., until noon December 1 for constructing and delivering two steel hulls and boilers for stern-wheel combination bucket dredge and snag boats Pee-Dee and Wateree; information on application; G. P. Howell, Major, Engineers.

Boilers.—See "Concrete Machinery, etc."

Boilers.—Short Line Coal Co., Chas. Heyer, secretary and treasurer, Penn Square Bldg., Philadelphia, Pa., wants one 150 or two 100-horse-power boilers for mines at Dola, W. Va.

Bronze, etc.—John G. Unkfer & Co., Minerva, O., wants prices on bronze and ornamental wrought and cast iron.

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Bridge Construction.—Hanover County Supervisors will receive bids until noon November 11 at Hanover, Va., for construction of 35-foot reinforced-concrete bridge over Chickahominy River between Hanover and Henrico counties. Information and plans may be obtained from P. St. J. Wilson, State Highway Commissioner, Richmond, Va., or clerk of court at Hanover.

Building Materials.—Standard Warehouse Co., W. M. Fair to be addressed, Ellmore, S. C., will receive bids on building materials, including roofing, sprinkler system, brick, tank and tower and gasoline engine.

Building Materials.—J. H. & T. L. Love, Raleigh, N. C., want prices on iron and metal ceilings, columns, hardware, brick, electrical equipment, plumbing, etc.

Box Machinery.—H. H. Barreda, M. E., Box 273, Mayaguez, P. R., wants complete equipment for cigar-box factory with capacity of about 10,000 boxes (of various sizes) per month; machinery to manufacture from rough lumber to finished product. Prompt correspondence desired.

Brass and Copper Novelties.—Frank S. Youngblood, Box 814, Norfolk, Va., wants addresses of manufacturers of brass or copper novelties, such as wire gauze, exceedingly fine wire cloth and pressed brass and copper articles. (Baltimore manufacturers preferred.)

Cement.—See "Stone, etc."

Cement.—Short Line Coal Co., Chas. Heyer, secretary and treasurer, Penn Square Bldg., Philadelphia, Pa., wants cement for concrete work at Dola (W. Va.) mines.

Cigar Factory Equipment.—H. H. Barreda, M. E., Box 273, Mayaguez, P. R., wants information, catalogues and prices on machinery for cigar factory.

Concrete Machinery, etc.—Cumberland Concrete Construction Co., T. D. Johnson, Jr., manager, Box 312, Clarksville, Tenn., wants prices on boilers, under 30-horse-power engines, under 20-horse-power concrete machinery, etc.

Conduit System.—A. N. Sloan, Commissioner, Department of Streets and Sewers, Chattanooga, Tenn., wants to correspond with firms or companies installing conduit systems.

Conveyor Repairs.—Sealed proposals, endorsed "Proposals for Repairs of Two Conveyors of Coal Shed A," received at Bureau of Yards and Docks, Navy Department, Washington, until 11 A. M. December 2, and then publicly opened, for repairs of two conveyors of coal shed A at United States Naval Station, Key West, Fla. Specifications can be obtained on application to Bureau or to commandant of naval station named. R. C. Hollyday, Chief of Bureau.

Corn-mill Machinery, etc.—Chamber of Commerce, R. M. Martin, managing director, Dublin, Ga., wants information on corn elevators, cost, etc.; also prices on corn-mill machinery. Send catalogues.

Cotton Duck.—S. Saunatz, Rue Ippocrate 87, Athens, Greece, wants addresses of manufacturers of cotton duck; view to representation.

Crayons.—S. Saunatz, Rue Ippocrate 87, Athens, Greece, wants addresses of manufacturers of chalk crayons; view to representation.

Desiccating Machinery.—The Business Bourse, 290 Broadway, New York, wants (for client) a machine for desiccating and compressing sisal fiber.

Ditching Dredges.—Box 559, Cincinnati, O., wants three ditching dredges (Marion make only considered); capacities, 2½, 1½ and from one to one-half cubic yards; prompt delivery; good condition; give full particulars and best price first time.

Drainage.—Bayou Cane Land Co., 632 Gravier St., New Orleans, La., will open construction proposals about January 15 for reclamation of 4116 acres of land in Terrebonne parish; canals, laterals, pumping station; cost \$100,000; John A. Kruse Engineering Co., Hibernia Bank Bldg., New Orleans, engineer.

Dredging Machinery.—G. L. Winn, Puerto Cortes, Honduras, Central America, via New Orleans, wants to correspond with manufacturers of hydraulic dredges, suction dredges or powerful suction pumps, to be used in filling in town of Puerto Cortes, from the shallow sandy bottom of Bay of Honduras; from 3 to 10 feet filling required; townsite, which is low and swampy, comprises 72 blocks 200 feet square and streets 50 feet; probably also fill adjoining area four times that of townsite.

Electric-light Plant and Water-works Equipment, etc.—City of Selma, N. C., will close contract November 14 for 60-horse-power boiler; 60-horse-power engine;

50 to 60-kilowatt three-phase generator and switchboard; electric wires and equipment; 60,000-gallon steel tank and 70-foot tower; about 12 hydrants; 2000 feet of fire hose; 5000 feet 6-inch water pipe; 1000 feet 36-inch terra-cotta drainage pipe. Address M. C. Winston or J. N. Mitchiner.

Electric-light Plant.—Mayor and Commissioners, Enfield, N. C., will receive bids until 8 P. M. December 6 at office of W. T. Clement, Mayor, for construction of electric-light plant; C. E. Fairbanks, engineer, 417 American National Bank Bldg., Richmond, Va.; for information address The Mayor.

Electric-light and Water-works.—Bids received by Mayor and Board of Aldermen, Trenton, Tenn., until 4 P. M. November 17 for construction of electric-light system and water-works improvement consisting of following: One 100 K. V. A. generator, engine type; one high-speed automatic engine, one 150-horse-power return-tubular boiler, one 150-horse-power heater, one deep-well pump for 10-inch well, one 150,000-gallon reservoir, 50 feet 8-inch cast-iron water pipe, 250 feet 10-inch supply main, 200 poles, 60,000 feet waterproof triple-braid No. 6 wire; pole line supplies, including insulators, pole-steps, crossarms, anchors, pins, etc.; bids considered as a whole and also from manufacturers direct; certified check for 5 per cent. of amount of bid; usual rights reserved; plans and specifications may be seen at office of R. C. Huston, consulting engineer, 1634 Exchange Bldg., Memphis, Tenn., or of City Recorder after November 5; W. E. Seat, Mayor.

Electrical Equipment.—See "Building Materials."

Electric-light Plant.—State Mission Board, Tennessee Baptist Convention, W. H. Runions, church builder, 710 Church St., Nashville, Tenn., wants prices on materials for construction of electric-light plant for school building and possibly for town of 800 population; operated by water-power. Address W. L. Rlogan, Helena, Tenn.

Electrical Machinery.—See "Conduit System."

Electrical Machinery.—Nashville Armature Works, Nashville, Tenn., wants three one-horse-power 60-cycle 110-volt A. C. motors; also 40-kilowatt generator, belt-driven, 110 volts, D. C.

Engine.—Bids will be received at office of Commissioners District of Columbia, Washington, D. C., until 2 P. M. November 9 for furnishing f. o. b. Washington gasoline self-propelled pumping engine for fire department, District of Columbia. Specifications and proposal forms may be obtained from purchasing office.

Engines.—See "Concrete Machinery, etc."

Excelsior Mills.—See "Sawmills, etc."

Felts.—Svenska Maskinfaren, Orebro, Sweden, wants to correspond with manufacturers of first-class woolen and cotton felts for paper and pulp mills; view to representation.

Fiber Machinery.—See "Desiccating Machinery."

Gasoline Engine.—Standard Warehouse Co., W. M. Fair to be addressed, Ellmore, S. C., will receive bids on gasoline engine. (See "Building Materials.")

Grain Elevators.—See "Corn-mill Machinery, etc."

Granite Grave Markers.—Office of Commissioner for Marking Graves of Confederate Dead, War Department, Lemon Bldg., Washington, D. C. Proposals in duplicate, subject to usual conditions, received at above address until 11:30 A. M. December 1, and then opened, for furnishing and erecting complete, including foundation, in Fort McHenry section of London Park National Cemetery, Baltimore, Md., monument or marker to Confederate prisoners; marker to be crystalline white marble or white or light gray granite; to bear bronze tablets showing rank (if other than private), company and regiment of about 30 soldiers, together with appropriate inscription in larger letters; printed forms of proposals may be had on application to this office; James H. Berry, commissioner.

Heating Plant.—J. H. & T. L. Love, Raleigh, N. C., want prices on heating plant.

Heating.—Board of Regents of College of Industrial Arts, Denton, Tex., will receive bids until noon November 15 for heating and ventilating household arts and science building; certified check for \$500, payable to W. B. Blizzel, president; plans and specifications at office of Endress & Walsh, architects, Bosche Bldg., Austin, Tex., or of president at Denton, or may be had on deposit of \$25. (See "Schools.")

Hose.—See "Steel Castings, etc."

Ice Machine.—Holliday & Jones, Wake

Forest, N. C., want second-hand ice machine of 1 to 1½ tons daily capacity.

Ice and Cold-storage Plant.—Bartlesville Ice & Cold Storage Co., James Gray, president, Bartlesville, Okla., wants to correspond relative to construction of 35 to 50-ton ice plant and cold storage on large scale.

Ice Plant.—Hillsboro Milling & Manufacturing Co., Hillsboro, N. C., wants prices on small ice plant.

Ice and Refrigerator Plants.—Elk River Coal & Lumber Co., J. G. Bradley, general manager, Clay, W. Va., wants information on first and operating cost of small ice machines and refrigerator plants.

Insulator Pins.—Craig Bros., Bassett, Va., want addresses of handlers of insulator pins.

Kettle.—A. T. La Vallette Company, Hampton, Va., wants second-hand 40x50-inch process kettle.

Levee Construction.—Bids invited for construction of 2½ miles of levee; ground soft and free from stumps and rocks; for further information address P. O. Box No. 2, Austin, Tex.

Lignum-vitae.—Layne & Bowler Company, Houston, Tex., wants lignum-vitae wood for bearing to be used in water.

Lumber.—See "Pitch Pine, etc."

Lumber.—See "Steel Castings, etc."

Machine-shop Equipment.—Atlanta Manufacturing Co., Atlanta, Ga., will receive bids at once for small machine-shop equipment.

Machine Tools.—Wilmington Iron Works, foot of Orange St., Wilmington, N. C., wants prices on small planer and matcher.

Metallic Shelving, etc.—Sealed bids will be opened November 20 at noon for metallic shelving and fixtures for offices in Mobile county courthouse, Mobile, Ala. Specifications can be seen in probate court, and inspection of rooms is desired. Board of Revenue and Road Commissioners, Mobile, Ala.

Motor Cars.—S. Saunatz, Rue Ippocrate 87, Athens, Greece, wants addresses of manufacturers of motor cars; view to representation.

Motor Cars.—See "Traction Road."

Naval Supplies.—Proposals received at Bureau of Supplies and Accounts, Navy Department, Washington, D. C., until 10 A. M. November 21, and publicly opened immediately thereafter, to furnish at navy-yard, Norfolk, Va., a quantity of naval supplies as follows: Schedule 465—Mineral oil, sal ammoniac; Schedule 466—Ship cane fenders; Schedule 468—Water-gauge glasses; applications for proposals should designate schedules desired by number; blank proposals furnished upon application to Navy Pay Office, Norfolk, Va., or to Bureau; T. J. Cowie, Paymaster-General, U. S. N.

Naval Supplies.—Proposals received at Bureau of Supplies and Accounts, Navy Department, Washington, D. C., until 10 A. M. November 21, and publicly opened immediately thereafter, to furnish at navy-yard, Washington, D. C., etc., naval supplies as follows: Schedule 463—Steel castings, forgings, steel tubing, steel boiler plates, structural steel; Schedule 464—Sodium nitrate, naval bronze, sheet copper, Sanderson's steel, steel balls, steel tubes, rubber gaskets for powder boxes, white oak, sweet gum; applications for proposals should designate schedules desired by number; blank proposals furnished upon application to Bureau; T. J. Cowie, Paymaster-General, U. S. N.

Naval Supplies.—Navy Department, Bureau of Supplies and Accounts, Washington, D. C., receives bids until November 28 for furnishing 12 one-inch boat chains, four steam-jacketed kettles and 24 coaling trucks, schedule 467; 36 crucibles without covers, lot of grease and graphite, 1200 pounds of lubricating mineral grease and 300 scoop shovels, schedule 468; four pneumatic portable geared hoists, one rivet and bolt forging machine, schedule 469; 15,000 pounds of marine glue and 3000 gallons of pine tar oil, schedule 467; delivery navy-yard Norfolk, Va.; also, until November 28, for furnishing 100 tons of pig-iron, schedule 467; delivery navy-yard, Charleston, S. C.; also, until November 28, for furnishing 34,000 tube shells, etc., delivery navy-yard, Washington, D. C.; for schedules apply Pay Office, nearest navy-yard.

Naval Supplies.—Proposals received at Bureau of Supplies and Accounts, Navy Department, Washington, D. C., until 10 A. M. November 14, and opened immediately thereafter, to furnish at Navy-yard, Washington, D. C., naval supplies as follows: Schedule 467, sheet zinc; schedule 462, Portland cement, yellow poplar, white pine, ash. Appli-

cations for proposals should designate schedules desired by number. Blank proposals furnished upon application to Bureau. T. J. Cowie, Paymaster-General, U. S. N.

Naval Supplies.—Proposals received at Bureau of Supplies and Accounts, Navy Department, Washington, D. C., until 10 A. M. November 14, and opened immediately thereafter, to furnish at Navy-yard, Norfolk, Va., naval supplies as follows: Schedule 463, steel plates and angles; schedule 467, bronze rod; schedule 468, naval brass; schedule 469, ingot tin; schedule 464, sheet tin, sheet zinc; schedule 469, sulphuric acid, white zinc; schedule 466, galvanized-iron buckets, platform scales, boat chains, fenders for towboats, mirrors, linoleum; schedule 466, generator set, transformers, fire-clay, hair felt. Applications for proposals should designate schedules desired by number. Blank proposals furnished upon application to navy pay office, Norfolk, Va., or to Bureau. T. J. Cowie, Paymaster-General, U. S. N.

Naval Supplies.—Proposals received at Bureau of Supplies and Accounts, Navy Department, Washington, D. C., until 10 A. M. November 14, and opened immediately thereafter, to furnish at Navy-yard, Charleston, S. C., etc., naval supplies as follows: Schedules 463 and 464, concrete buildings, etc.; schedule 463, steel plates and angles; schedule 467, copper sheathing; schedule 468, naval brass; schedule 469, yellow pine. Applications for proposals should designate schedules desired by number. Blank proposals furnished upon application to navy pay office, Charleston, S. C., or to Bureau. T. J. Cowie, Paymaster-General, U. S. N.

Ornamental Iron.—See "Bronze, etc."

Paving.—D. A. Yoder, Street Commissioner, Lincoln, N. C., will receive bids until November 12 for construction of about 2000 yards of concrete sidewalks; specifications on application to Mr. Yoder.

Paving.—City Council, St. Petersburg, Fla., will receive bids until 7:30 P. M. November 16 for grading and paving Ninth Ave., north from 9th to 15th St.; 15 feet wide; profiles, plans and specifications on file with City Engineer; certified check \$200; W. F. Divine, City Clerk.

Paving.—City of Farmersville, Tex., will receive bids until 2 P. M. November 15 for construction of concrete crossings, curbs, gutters and culverts; plans and specifications on file with J. P. Huddleston, Mayor, and E. L. Dalton, engineer, Dallas, Tex.; certified check \$200.

Paving.—J. V. Delametter, City Clerk, Bartlesville, Okla., will receive bids until 2:30 P. M. November 11 for grading, curbing, guttering, paving and otherwise improving, including installation of catch-basins and making gas, sewer and water connections, of 10th St. from Osage to Armstrong Ave.; width, 30 feet; bitulithic paving on four-inch concrete base; plans, profiles, specifications, etc., on file with City Engineer; certified check \$1000.

Paving.—City Council, New Decatur, Ala., will receive bids until 8 P. M. November 16 for construction of cement sidewalks and brick crosswalks, called for under Improvement ordinance No. 247; plans, profiles and specifications on file with City Engineer and City Clerk; John Patterson, Mayor; Henry Hartung, City Clerk.

Paper.—S. Saunatz, Rue Ippocrate 87, Athens, Greece, wants addresses of manufacturers of paper; printing paper specialty; view to representation.

Pianos.—S. Saunatz, Rue Ippocrate 87, Athens, Greece, wants to correspond with manufacturers of pianos; view to representation.

Pipe, etc.—Deep Red Oil Co., Grandfield, Okla., wants prices on pipe and casing.

Piping.—Sealed bids for 33,000 linear feet of 10-inch class "B" cast-iron water pipe received until 5 P. M. November 20 by city of Pryor Creek, Okla.; pipe must come under specifications of American Water-Works Association for cast-iron pipe; usual rights reserved; Benham Engineering Co., 812-13-14 American National Bank Bldg., Oklahoma City, Okla., consulting and supervising engineer; Joe Hillin, City Clerk Pryor Creek, Okla.

Pitch Pine, etc.—S. Saunatz, Rue Ippocrate 87, Athens, Greece, wants to correspond with manufacturers of or dealers in pitch pine, oak, etc.; view to representation.

Plumbing.—See "Building Materials."

Rails, etc.—Byrd-Matthews Investment Co., National Bank of Commerce Bldg., St. Louis, Mo., is receiving bids on material for railroad construction; wants prices on 60-pound new and relaying rails; for use Gainesville, Ga.

Railway Construction.—Houston & Texas Central Railroad Co., E. B. Cushing

chief engineer of construction, Houston, Tex., will receive bids until noon November 15 for construction of about 13 miles of roadbed for branch line in Lee county, Texas; total quantities about 500,000 cubic yards; profiles on file with Mr. Cushing, who will furnish further information.

Road Construction.—Tallapoosa County Supervisors, Dadeville, Ala., will let contract December 1 to construct clay road from Dadeville to Millers Ferry; 5 per cent. grade; 26 feet from ditch to ditch; J. R. Hall, engineer in charge; further information may be had by addressing State Highway Engineer at Montgomery, Ala.

Road Construction.—Louisiana Farm Land Co., 32 Gravier St., New Orleans, La., will open bids January 15 for five miles of road building.

Road Construction.—State Roads Commission, John M. Tucker, chairman, Union Trust Bldg., Baltimore, Md., will receive bids until noon November 15 for construction of section of road three miles long from Owings toward Mt. Zion, in Anne Arundel county; bids to be made on blank forms contained in book of specifications furnished by commission on application and payment of \$2 for each section; blueprints of each section furnished at rate of 25 cents for each half mile; certified check \$500.

Rolling Partition.—Blevins & Leigh, Van Buren, Ark., want yellow-pine rolling partition.

Sand.—See "Stone, etc."

Sawmills, etc.—Flat Creek Lumber Co., F. J. Craigie, Jr., president, Box 542, Richmond, Va., wants pine timber in Virginia and North Carolina; prefers timber and mills now in active operation; will consider sawmills, lath and excelsior mills.

Sewer Construction.—Commissioners District of Columbia, Washington, D. C., will receive bids until 2 P. M. November 17 for construction of sewers. Specifications, proposal forms and information may be obtained from chief clerk, Engineer Department, 427 District Bldg.

Signs.—Fulton County Commissioners, Atlanta, Ga., want to purchase signs for crossroads within county designating direction and distance of various towns; will probably be supported on iron posts.

Sprinkler System.—See "Building Materials."

Steam Ram.—John Anderson, Abbeville, La., wants steam ram for hoist engine; to work on friction pin to shove drum up on friction and hold it until released by operator; engine (supplied) is 9 1/2 x 10-inch Flory hoist. Quote price and time of delivery.

Steamboats.—Mandeville Steamboat Co., W. B. Lancaster, president, 347 Carondelet St., New Orleans, La., wants two or three steam boats to run 20 miles an hour; side wheels preferred.

Stone, etc.—Nealon & Klein, Leebie Bldg., Middletown, O., want prices on crushed stone, sand and cement for concrete railroad work at Anderson, S. C.

Steel Castings, etc.—Sealed proposals received at office of General Purchasing Officer, Isthmian Canal Commission, Washington, D. C., until 10.30 A. M. November 28, and then opened in public, for furnishing hose, steel and manganese steel castings, lumber and piles; blanks and general information relating to this circular (No. 633) may be obtained from this office or offices of assistant purchasing agents, 24 State St., New York; 614 Whitney-Central Bldg., New Orleans, and 1086 North Point St., San Francisco; also from U. S. Engineer Offices in Seattle, Los Angeles, Baltimore, Philadelphia, Pittsburgh, Boston, Buffalo, Cleveland, Cincinnati, Chicago, St. Louis, Detroit, Milwaukee, St. Paul, Chattanooga, Louisville, Mobile and Galveston; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill.; and Chamber of Commerce and Board of Trade, Tacoma, Wash.; F. C. Boggs, Major, Corps of Engineers, U. S. A., General Purchasing Officer.

Timber.—See "Sawmills, etc."

Timber.—See "Lignum-vitae."

Tips.—Office of Chief Signal Officer, Capt. R. J. Burt, disbursing officer, Washington, D. C., will receive bids until 11.30 A. M. November 15 for furnishing 6000 tips for lance poles, specifications 376-A, 86-B and drawings 413-1, 106. Send for specifications.

Traction Railroad.—Geo. A. Smith, Panama City, Fla., wants information on equipment, etc., for 14-mile traction road; as to probable cost of traction auto-cars, gasoline motor cars, rail, size, etc.

Track Frogs, etc.—Proposals for track frogs, iron washers, solder, stovepipe, soil-pipe fittings, oilers, water-coolers, asbestos packing, sash cord, coal tar, lard oil, chrome

green, umber, shipping tags and paper. Sealed proposals received at office of General Purchasing Officer, Isthmian Canal Commission, Washington, D. C., until 10.30 A. M. November 21, and then opened in public, for furnishing above-mentioned articles. Blanks and general information relating to this circular (No. 664) may be obtained from this office or offices of assistant purchasing agents, 24 State St., New York; 614 Whitney-Central Bldg., New Orleans, and 1086 North Point St., San Francisco; also from United States Engineer Offices in Seattle, Los Angeles, Baltimore, Philadelphia, Pittsburgh, Boston, Buffalo, Cleveland, Cincinnati, Chicago, St. Louis, Detroit, Milwaukee, St. Paul, Chattanooga, Louisville, Mobile and Galveston; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill.; and Commercial Club, Tacoma, Wash.; F. C. Boggs, Major, Corps of Engineers, U. S. A., General Purchasing Officer.

Turpentine, etc.—Deutsch-Russisches Handels-Syndikat in Hamburg m. b. H., Hamburg, Germany, wants to correspond with exporters of resin, turpentine oil, residues, etc.

Ventilating.—See "Heating."

Water-works.—City of Mt. Vernon, Tex., desires addresses of engineers relative to construction of water-works; W. E. Haydon, Mayor.

Water-works Construction.—See "Well Drilling, etc."

Water-works.—See "Electric Light Plant and Water-works."

Water-works.—Sealed proposals received at office of City Clerk, Pacific, Mo., until 7.30 P. M. November 27 for furnishing material and constructing water-works; will consist in 1100 feet eight-inch wood, 850 feet eight-inch and 4100 feet six-inch cast-iron pipe, 11,600 feet four-inch pipe and 1440 feet two-inch galvanized-iron pipe; 20 fire hydrants; 20 gate valves, with boxes; reinforced concrete reservoir; sand and gravel filter; two 250-gallon-per-minute turbine pumps; two 220-volt 60-cycle single-phase electric motors, one 5 and the other 20 horse-power; brick building; alternate bids received on internal-combustion engines of 5 and 20 horse-power, respectively; plans and specifications may be seen at office of City Clerk, Pacific, Mo., or in office of engineers, Fuller-Coutt Company, Chemical Bldg., St. Louis, Mo.

Water-works Equipment.—See "Electric Light and Water-works Equipment, etc."

Water-works.—Gainesville Water Commission, F. H. Sherwood, secretary, Gainesville, Tex., will receive bids until November 13 for reinforced concrete reservoir and pumping wells as per plans and specifications on file with N. Werenskiold, 409 Flato Bldg., Dallas, Tex.; certified check 2 per cent. of bid.

Water-works.—Bids received at office of Russellville Water & Light Co., Russellville, Ark., until 2 P. M. November 29 for furnishing material and constructing water-works system; to consist in 22,000 feet 10-inch wood stave, 1100 feet 10-inch, 3075 feet 8-inch, 925 feet 6-inch and 5680 feet 4-inch cast-iron pipe; 18 gate valves with boxes; 42 fire hydrants; six air-pressure valves; two 500,000-gallons-per-day motor-driven turbine pumps; two 30-horse-power 220-volt three-phase 60-cycle induction motors; pump station and coagulating-house and coagulating reservoir; plans and specifications may be seen in office of company at Russellville or in office of engineers, Fuller-Coutt Company, Chemical Bldg., St. Louis, Mo.

Well-drilling Machinery.—W. J. Mandeville, Doublerun, Ga., wants addresses of dealers in well-boring machinery and H. P. machine to operate same.

Well Drilling.—City of Chandler, Okla., J. Bart Foster, clerk, will open bids 7 P. M. November 21 (deferred date) for drilling artesian well 2500 feet deep; city to furnish casing.

Well Drilling, etc.—A. B. Martin, chairman water committee, Gordonsville, Va., wants to correspond relative to having 300 to 500-foot well drilled and pumping station installed.

Woodworking Machinery.—See "Box Machinery."

Woodworking Machinery, etc.—Barbour Buggy Co., South Boston, Va., wants following new or second-hand equipment for body plant: 36-inch band saw; shaper, 1 1/2-16 or 1 1/4; mortiser; 10-inch inside molder; pony planer; tenoner with cut-off saw attachment; sand disc; 12-inch jointer; combination saw with Gainer head; one each variety, rip and swing cut-off saws; band resaw, four-inch blade; plug cutter; sand belt fixtures; panel back bender; filing equipment for band resaw; multiple borer, and second-hand West tire setter.

INDUSTRIAL NEWS OF INTEREST

Glamorgan Company's Contracts for Gas Pipes.

Contracts for the piping for the new system for supplying gas to South Richmond, Va., has recently been awarded to the Glamorgan Pipe & Foundry Co. of Lynchburg, Va. The contract calls for 8000 feet of 16-inch pipe, 25,000 feet of 6-inch pipe and 26,000 feet of 4-inch pipe. It is expected to supply the pipe and have it in place within six months.

Railway and Contractors' Equipment

H. W. Pickett, Harrison Bldg., Philadelphia, has incorporated his business. The following are the officers: President, H. W. Pickett; vice-president and treasurer, E. D. Channell, and M. H. Pickett, secretary. He handles railway and contractors' equipment, including new light rails, relaying rails, locomotives, dump cars, locomotive cranes, hoisting and swinging engines, and a limited amount of second-hand equipments.

Fifty Cars of Cast-Iron Pipe for Key West, Fla.

The Central Foundry Co. of Bessemer, Ala., is reported to have received an order for 50 carloads of cast-iron pipe to be shipped to Key West, Fla., the shipments to begin at once. The first shipment was started this week, when 12 cars were loaded. The Central Foundry Co. recently won the first premium at the Alabama State Fair on its exhibit of piping.

To Develop Mineral Properties.

The Gould Company of Muskogee, Okla., which was referred to in last week's issue of the Manufacturers Record as having been organized, is now undertaking the development of a number of mineral properties which Dr. Gould has discovered during his 17 years' experience as a geologist. He has recently resigned his position as director of the Oklahoma Geological Survey and professor of geology at the State University in order to devote his entire time to these developments.

A Big Cotton Plantation for Sale.

A completely equipped plantation of 3555 acres of good cotton land, all now in successful operation, is offered for sale in our "Classified Opportunities" column on easy terms. A. C. Leigh of Grenada, Miss., is the owner of the property, which lies between two branches of the Illinois Central Railroad in Mississippi. It is equipped with cabins for tenants, stables, cribs, cotton bins, 45 head of mules and horses, cows, farming implements and foodstuff. It is also well supplied with negro laborers.

Furniture Contracts for the Bee County (Texas) Courthouse.

Furniture for the Bee county courthouse at Beeville, Tex., for which bids were recently received, has been purchased from the following firms: Art Metal Construction Co., Jamestown, N. Y., metal equipment for office, \$3825; the Texas Seating Co., Fort Worth, Tex., chairs and tables, \$2145; C. H. Myers & Co., Houston, Tex., furnishings for courtroom, \$2201.50; W. R. Scogin of Beeville, Tex., miscellaneous, \$1015. Stephenson & Heldenfels, Beeville, Tex., are the architects for this building.

The Standard Brick Co.'s Operations.

A big business in its high-grade faced bricks is being done by the Standard Brick Co., Macon, Ga. As an example of the skill attained by this company in clay work, it is displaying in its warehouses at Macon five artistically designed specimens of pottery with decorations, which, although very delicate in appearance, are strong and durable. Flowers are wrought on many of the vases and other vessels which have more the appearance of being made of wire rather than of clay. This display has attracted a great deal of attention and favorable comment.

New Tungsten Fixture Offered.

A Covington (Ga.) inventor is now offering to municipal and other users of electricity his newly-invented tungsten lamp fixture. He is F. P. Harrison, steam, hydraulic and electrical engineer, in charge of the water and light plant at Covington. The fixture is protected by American and European patents. It is claimed to be economical to the extent that 60 Harrison lamps use the same amount of electricity as is required for 25 arc lamps and yet furnish the same candle-power each. Mr. Harrison is now having his lamp manufactured in Cincinnati, and he contemplates organizing a company to manufacture it at Covington. Ben T. Comer, who is connected with the

Lowell (Mass.) Machine Shop, is understood to be negotiating with Mr. Harrison relative to forming the company referred to. Last week 250 of the Harrison lamps were sold.

A Georgia Cement Property for Sale.

A cement property containing 270 acres near Rockmart, Ga., in which the limestone and shale are without overburden so that no stripping is required, is offered for sale at what is said to be a sacrifice price of \$15,000, providing the sale is made within 30 days. This is the property of the Georgia Portland Cement & Slate Co., W. W. Wadsworth, president, 75 Park Ave., Atlanta, Ga. Two railroads give excellent transportation facilities. The supply of limestone and shale is described as inexhaustible. Pure water with a natural reservoir near by is available.

H. W. Johns-Manville Company's Expansion in Birmingham.

On account of its rapidly-increasing business in Birmingham, Ala., the H. W. Johns-Manville Company, 100 William St., New York, has found it necessary to change its Birmingham office to the Chamber of Commerce Building. This office will continue under the management of W. H. Fleming, who, having been connected with the New Orleans branch of this company, is well known throughout this section. A complete line of the well-known J-M asbestos and magnesia products, electrical supplies, packings, etc., will be handled from Birmingham.

To Manufacture Mill Equipment and Supplies.

The Atlanta Manufacturing Co., Atlanta, Ga., has been incorporated with a capital stock of \$100,000 by J. O. Bailey, J. E. Boston and A. D. Kennedy to manufacture a general line of mill equipment and supplies. The company will absorb the firm of Jos. O. Bailey, engineer and machinery dealer. An extensive plant with a site of 12,000 square feet has been leased by the company, which will have branches in all parts of the South. The greater part of the machinery has been purchased, but proposals for small machine-shop equipment are still open for consideration.

Coal-Handling Equipment for Navy Colliers.

The Mead-Morrison Manufacturing Co. of Cambridge, Mass., has been awarded the contract for equipping Navy colliers No. 9 and No. 10 with coal loading and unloading machinery. The Newport News Shipbuilding & Drydock Co. is building the vessels. The Navy collier "Cyclops," built by the Cramp Shipbuilding & Engine Co., Philadelphia, about one year ago, and equipped by the Mead-Morrison company with coal loading and unloading apparatus, has demonstrated the efficiency of this system of machinery for the work, and the Navy Department has decided to use it on the new colliers.

The Dalworth Company Extends Its Holdings.

Since October 15 the Dalworth Company, Dalworth, Tex., has acquired 150 acres adjoining its townsite. This property is valued at \$60,000 and is platted into one and five-acre tracts. It is located on the Dallas-Fort Worth Interurban Railroad and is called "The Dalworth Gardens." It has graded streets, and artesian water piped to every block, and natural gas is available for every residence. On the east side of its regular Dalworth townsite the company has acquired 75 acres, valued at \$25,000, all accessible to natural gas and artesian water. This tract faces the town of Grand Prairie. Twelve new residences are under construction at a cost of \$36,000.

Oil Distributing Plants in Texas.

The Magnolia Oil Co. of Texas within the past several months has begun the erection of more than 150 plants in different parts of the State. The company has near completion three two-story brick additions to its Corsican plant, and one two-story corrugated frame building costing \$10,000. It has recently completed a two-story office building and a brick plant in Dallas at a cost of \$7000, and has near completion in Waco a 45x90-foot corrugated-iron warehouse, 10 storage tanks, garages, wagon sheds and stables, all with concrete floors, at a cost of \$18,000. In Galveston a reinforced concrete office and warehouse building, wagon sheds and stable, with fire walls around the storage tank at a cost of \$20,000, has been built; at Houston, a brick building 45x80 feet, with storage tank and stables, at a cost of \$12,000; at San Antonio, a frame building, warehouse, storage tanks and stables, at a cost of \$7000, and

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at Fort Worth, two plants, warehouse and stable, at a cost of \$8000.

Blake & Knowles Steam Pump on Vessels of the Atlantic Fleet.

As an illustration of the intimate association of the many industries which form an important part in the equipment of the great Atlantic fleet of naval vessels recently reviewed by President Taft in New York harbor, the part that the Blake & Knowles company has taken is interesting and instructive. The Blake & Knowles Steam Pump Works, 115 Broadway, has installed pumping equipment on no less than 45 of these vessels. This is a large percentage, especially considering that nine of the vessels, which includes the submarines, carry no steam pump, and that eight others, principally colliers, were built abroad. The number of pumps that this company has installed on the vessels of the fleet exceeds 1000, and the cost represents nearly a million and a quarter dollars.

A Patented Brake Hanger and Shoe for Use on Railway Trucks.

William H. Kaldreider of Heaters, W. Va., has been awarded patents on a brake hanger and a brake shoe for use in connection with brake appliances on railroad cars. C. E. Mollohan of Heaters, W. Va., is half owner and has the exclusive selling rights. The primary object of this brake hanger is an improved support for a brake block hanger whereby the parts may be securely held together and yet be capable of being easily and quickly disassembled and assembled whenever necessary. It also has an improved reinforcing bar designed to protect the standard or brake hanger column against breakage from the severe shocks and strains to which they are subjected. The plan of the brake shoe is to provide for a simple and efficient construction of brake shoe and block in which the parts are so arranged that the shoe may be easily secured to and removed from the block, and be retained connected thereto with a maximum degree of security.

Universal Road Machinery Co.'s Expansion.

In the two years since it was fully organized the Universal Road Machinery Co. of Kingston, N. Y., has expanded under the management of R. E. Leighton until it is now one of the extensive manufacturers of road machinery of this country. It has bought connecting tracts of land, erected new buildings and put in additional machinery each year to meet the increasing demand. It is stated that its sales last year doubled the previous year's record, and that this year they have far exceeded those of last year. Its products go to all parts of the country. A complete road-building plant has just been shipped for road work in Eastern Tennessee. The Universal portable "Reliance" road-building plant includes a portable stone crusher and bin hauled by a road traction engine, together with other equipment as needed on the work to be done. In some cases its "Porcupine" road scarifier is used. This is a machine that loosens up the surface of the road to the desired depth by means of steel points rolled into the surface, without injuring the roadbed, so that the material after being loosened and when the repairs have been completed may be rolled down again without renewing the stone. This company maintains a selling force composed of men who have extensive general and practical knowledge of road building.

TRADE LITERATURE.

Dean Bros.' Pumps and Condensers.

The various pumps manufactured by Dean Bros. Steam Pump Works, Indianapolis, are described and illustrated in catalogue No. 86, recently issued. The catalogue contains dimensions and capacities of each type of pump manufactured. Among these pumps are the Dean Bros. durable duplex boiler feeders with packed pistons, duplex pumps for tank or other light service, automatic duplex feed pumps and receivers, duplex plunger pumps, duplex outside-end packed steam pumps, vertical duplex pumps for attachment to walls, compound duplex vertical elevator pumps, hot-water vacuum pumps, compound air pumps and condensers, Dean Bros.' sinking pump for mines, quarries, etc.; compound vertical pumps for deep wells, ammonia pumps, etc.

Ingersoll-Rand Company's Duplex Steam-Driven Compressor.

The "Imperial Type X" duplex steam-driven compressors manufactured by the Ingersoll-Rand Company, 11 Broadway, New York, are described and illustrated in Catalogue 3211, recently issued. Tables of standard

sizes and capacities are given. These machines have massive well-braced construction, with generous bearing surfaces, mechanically actuated air intake valves with large direct passages, and with cushioned discharge valves. The air cylinders of these compressors are water-jacketed. The smaller compressors up to 16-inch stroke have overhung cylinders. On larger sizes the air cylinders are supported on strong foot pieces resting upon sole plates on the foundations, and may be drawn away on these sole plates when necessary to detach the cylinders from the frames.

Lindstrom's Steam Traps and Separators.

The illustrated catalogue issued by the John T. Lindstrom Machine Works, Allentown, Pa., in addition to description and illustration of Lindstrom's patented Corliss valve steam trap and steam separators, contains useful directions, drawings and tables for setting Corliss engine valves. The steam separators are for use in removing the water of condensation from steam before it enters the cylinder. It is found that the steam is not only freed from this water but is at the same time slightly superheated. A separator is designed for use in the boiler and also at the throttle valve of the engine cylinder. It is claimed that the two separators used together furnish the engine with the purest and driest steam obtainable. This company also describes its reboiling tools for use without removing cylinder.

Merchant & Evans Company's "Star" Ventilators.

Realizing that abundance of light and ample ventilation are necessary for the highest efficiency in industrial buildings and form a source of health in all buildings in which people work or live, the Merchant & Evans Company, Philadelphia, has developed a type of ventilators in which the maximum upward flow of air is induced. It is storm-proof and forms at the same time a skylight, having a glass cap instead of the usual metal top. A catalogue describing and illustrating "Star" ventilators of various types has been issued by the company. "Star" ventilators may be found on buildings, both public and private, in all parts of the civilized world. The construction of the ventilator is shown in this catalogue in sectional views. Its application for use in the ventilation of railroad stations, cars, school-houses and manufacturing plants is extensively treated.

Belted Alternating Current Generators.

There are many places where belted machines can be used advantageously and economically, as in the case of group machinery or where they may be connected to an already existing source of power, as in a line shaft used for driving other machinery. To avail itself of the opportunity thus presented for providing suitable machinery, the Allis-Chalmers Company, Milwaukee, has developed and manufactures two types of belted alternators. The type "AH" machines are known as the pedestal type and cover a wide range of output. The type "AB" alternators are made in smaller sizes, are self-contained, and are especially suited for comparatively small plants requiring an alternator not exceeding 150 K. V. A. in capacity. These Allis-Chalmers belted alternating-current generators are described and illustrated in Bulletin No. 1055, which will be sent on request to the company.

Wood Preservation for Railway Ties.

The advantages to be derived from using wood-preserving methods and treating railroad ties, telephone poles and structural wood are covered in a pamphlet issued by the C-A-Wood-Preserver Co., St. Louis. It is stated that notwithstanding the vast amount of discussion which has taken place during the last few years on the question of wood preservation for the electric-railway industry and the amount of interest that has been aroused in it, comparatively little wood preserving is done. Statistics are quoted to show that only 10 per cent. of the ties used by electric railways in 1909 were treated to protect them from decay. Illustrations and figures are used in the catalogue to show the economy that may be obtained by the proper treatment of wood, and it is claimed that the "C-A-Wood-Preserver" will at least double the useful life of ties. This company has sales offices at 135 Broadway, New York; in New Orleans; Austin, Tex., and other cities.

Dahlstrom Fireproof Doors and Trim.

The modern fireproof building has come to us with the automobile, the aeroplane,

wireless telegraphy and other wonderful improvements of this age, and like the "wireless" the fireproof building is now a necessity rather than a luxury. An important element of fireproofness, which for many years was not fully taken into consideration, is the amount of inflammable material, such as doors, window casings, moldings and trim used in so-called fireproof buildings. A long step in advance was made six years ago when the inventor of the "Dahlstrom" products showed and proved the danger of wood doors and trim as compared with the "Dahlstrom" hollow steel door and trim with the same degree of economy and beauty. An attractively bound and illustrated pamphlet, recently issued by the Dahlstrom Metallic Door Co., Jamestown, N. Y., shows the various styles and colors of the finish of these doors and other Dahlstrom products, including jambs, casings, cabinets, partitions, wardrobes, picture and wire moldings, chair railings, etc. Estimates on work and detailed information to meet special requirements will be submitted on request. The application of Dahlstrom products to the fittings of steel cars is described and illustrated in its pamphlet, "Modern Travel," recently issued.

The "United States Steel Wire Gauge."

In announcing its adoption of the Government's recommendation for a standard wire gauge and to distinguish the American wire gauge from the British standard wire gauge, the American Steel & Wire Co., 72 W. Adams

St., Chicago, has issued a folder in which it is stated that upon the recommendation of the Bureau of Standards at Washington a number of the principal wire manufacturers and important consumers have agreed to designate this gauge as the "Steel Wire Gauge." In cases where it becomes necessary to distinguish it particularly from the British standard wire gauge it may be called the "United States Steel Wire Gauge." The name thus adopted has official sanction. It is stated that until certain provisions of the tariff act are amended the Treasury Department will probably continue to use the Birmingham gauge, but it should be abandoned by all other users, as it is nearly obsolete both in the United States and in Great Britain. For copper wires and wires of other metals the gauge universally recognized in the United States is the "American Wire Gauge," also known as the Brown & Sharpe. A table of gauges is included in this pamphlet showing the number of gauge, diameters by steel wire gauge, full sizes and weight in pounds per mile of each size.

OBITUARY.

T. F. Salter.

Mr. T. F. Salter, manager of sales and engineering with the Standard Roller Bearing Co. of Philadelphia, died very suddenly at his home in that city on Wednesday, October 25, at the age of 35. Mr. Salter was a member of the American Society of Mechanical Engineers and of the Society of Automobile Engineers.

MOTOR TRUCK AND TRACTOR NEWS.

Hele-Shaw Clutch for Motor Trucks.

The confidence which manufacturers of motor trucks have in the well-known Hele-Shaw clutch is evidenced by the fact that the makers, Merchant & Evans Company, Philadelphia, has already closed orders for over 2000 of these equipments for motor trucks of the 1912 season.

New Motor Trucks for Use in Baltimore.

D. Hamilton, florist, has purchased a Spoerer motor delivery from Carl Spoerer & Sons, Baltimore. The Ruxton Heights Water Co. has purchased a Mack motor truck; the Chattolane Water Co. a White, and Footer's Dye Works has purchased a second White and has ordered the third for use in the city and suburban delivery. Arthur Stevens, Edmondson avenue and Schroeder street, has received a "Little Giant" demonstrator motor truck from the maker, the Chicago Pneumatic Tool Co., Chicago. Mr. Stevens is the Baltimore agent for this truck.

Motor Trucks in the Quartermaster-General's Annual Report.

In the last annual report of the Quartermaster General of the United States Army the following reference was made to the use of motor trucks in the army: "The question of efficiency and economy of automobile trucks as compared with animal-

Cal.; one at Fort Sam Houston, Tex., for use in the maneuver division; one at West Point, N. Y., and seven for use at Manila. The question of supplying auto trucks to replace animal-drawn transportation with troops in the fields is also under consideration. The ordinary commercial truck is not suitable as a means of transportation for the army in the field, but one truck of a special type has been contracted for with a view to testing the same to determine if a truck can be developed which can be relied upon under all field conditions. The idea carried out in the experimental truck now being built is that the truck shall carry a maximum load of 3000 pounds—the aggregate weight being about 6000 pounds—and be capable of a speed such that it can do the work of at least two wagons over such ordinary country roads as troops would use. Authority has been obtained for the purchase of one experimental automobile ambulance, to be constructed by the White company, Cleveland, O., for use in Honolulu."

Storage Battery Truck Crane.

The need of a device for handling with expedition and at a low cost freight and materials which have to be lifted and moved through moderate distances at railway and marine terminals, in manufacturing plants and many other places, has long been recog-



GENERAL ELECTRIC CO.'S BATTERY TRUCK CRANE.

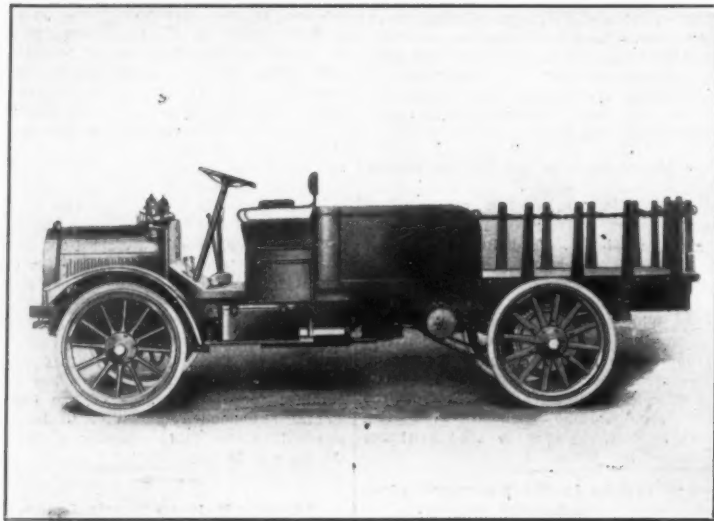
drawn transportation has been carefully gone into. For use in cities and on macadam roads it is found that the ordinary commercial truck is more economical and more efficient than the equivalent number of wagons. Three trucks have already been provided at the depot of San Francisco,

nized. To meet this demand the General Electric Co., Schenectady, N. Y., has placed on the market the Battery Truck Crane. This is an electric truck which has a swinging crane mounted on the front end. The hook of the crane is raised and lowered by a one-ton hoist mounted on the front end

just back of the crane, the motors driving the hoist and the vehicle being operated from a storage battery mounted on the rear end. This battery truck crane can be employed to load or unload box cars, gondola cars, wagons, lighters, etc., and effects a saving both in time required and the number of men employed. The accompanying illustration shows this truck crane handling castings in a foundry. Examples of the employment of this crane include the unloading from a gondola car of 300 castings, aggregating 65,000 pounds, in five hours, giving an average of over one lift per minute. Another instance was a box car which was loaded with sixty-four 800-pound barrels of plumbago in 25 minutes, and four cars loaded in two and one-half hours, the latter work including placing the cars. When material in any quantity has to be moved less than 400 feet, or in small quantities, to any reasonable distance, it is lifted by the hook, conveyed to its destination by the vehicle and placed on the floor, or a high pile if necessary. The short wheel base permits making short turns so this truck may be readily driven about the shop, over congested piers, or among the piles of material in the storage yard. By this "pick-up-and-run" method sixty 800-pound barrels of plumbago were moved 300 feet in one hour; one hundred and fifty 300-pound boxes of rubber were conveyed 75 feet and loaded into a box car in 50 minutes; one ton rocks have been loaded upon trailers from a scattering pile at the rate of 24 tons an hour, being hoisted two feet and carried about 20 feet. This truck will do the work before the tools can be gathered together in ordinary methods of handling heavy objects. The Battery Truck Crane is used to tow trailers in trains

the limits of error are closer than 1-1000, and 39 operations in which the limit is one-quarter of 1-1000 of an inch. In order to get this close work it is necessary to have special jigs, special fixtures and special gauges for every machine operation on the truck. This accurate fitting not only adds life to the truck, reduces friction and wear, but also means that if at any time it is necessary to order a repair part it will fit into its place accurately without any adjustment. In the matter of load distribution the Kelly truck is so designed that a maximum of traction by the rear wheels is obtained without causing these wheels to bury themselves when pulling in deep mud, deep snow or sand. This is brought about in the Kelly trucks by arranging the load distribution so that 78 per cent. is on the rear wheels and 22 per cent. on the front wheels. Seven years' experience has proven to the company's satisfaction that this load distribution is the best to keep down the wear on the tires and to enable the truck to pull itself out of bad places. In the recent endurance run from Chicago to Detroit, after 700 miles of the hardest kind of usage, the tires on the truck showed very little wear. This distribution of the load after considerable study and effort has been effected, and at the same time keeping the motor under the hood, where it is more accessible than when placed under the seat. The simplicity of this truck is apparent on examining the view shown in the illustration. It is equipped with a pressed-steel frame of very heavy sections, and with only three cross members, which gives it great elasticity, so that if one wheel runs up on a bank higher than the other wheels the frame will adjust itself to conform with the unevenness of the road

carrying the compression. The inside of the adjusting block which fits on the jack shaft is a drop forging with a concave surface, into which the convex surface of the jack shaft housing fits. The motor of this truck can be removed by simply taking out the bolts which hold it to the frame and disconnecting the clutch. The truck is equipped with an irreversible steering gear, with 18-inch hand wheel, making the steering of the truck very easy. The steering column is placed on the left side and the gear shift lever is placed to the right of the driver, thus giving clear passage for the driver in getting on and off the car. The wheels are made of best selected hickory with spokes two inches square, with 35x3 1/2-inch front and 35x4-inch rear tires. The cooling equipment consists of a centrifugal multiple-vane blower in connection with air jackets over each cylinder. These jackets distribute the air evenly around each cylinder, making the cooling even and positive. This system prevents undercooling as well as overheating. Great attention is given to the work on the motors. The cylinders are made of best quality gray iron and given a 60-pound water test; a rough-cut bore is taken out of them, and then they are annealed so that if any dirt is in the casting it will be burned out. They are then given another water test. The cylinders are carefully gauged when bored, and finally tested with a special micrometer on which the divisions of 1-1000 of an inch are represented to the vision by one-eighth of an inch. The clutch used on this truck is the design of the Kelly company. It is made from a cast aluminum spider, which gives lightness, and the outside is faced with a special grade of leather, fitted with springs under the end. With this clutch it is possible to start with full load on high speed slowly and gradually until the clutch has come fully into place. This gives very accurate control of the truck. The finish on this truck is the best obtainable. The steering column is black enamel, with nickel-plated spiders in the wheel, and the lamps, lamp brackets, hub caps and gear-shifting levers are all nickel plated, so the car presents a handsome appearance, which can be maintained.



THE KELLY MOTOR CO.'S ONE-TON TRUCK.

of about four each when transporting material to distances over 400 feet. These are extensively used at the Bush terminal stores, Brooklyn, N. Y. On a hurry order for cotton 48 bales were delivered alongside of the lighter within 25 minutes after the order was given. The Battery Truck Crane is designed for a high draw bar pull of 2000 pounds, and equal to that of a five-ton locomotive on rails, and sufficient to move a railroad car, pull wagons or automobiles out of mudholes, and to readily handle loads of five to eight tons on trailers. For special work the equipments are designed and built to meet the requirements. This truck crane has all the advantages of an electrically operated vehicle. It is odorless, noiseless, and is free from the danger of explosion or fire hazard. The mechanism is so simple that a man of ordinary intelligence becomes fairly proficient in operating it in a few days. The battery charging may be left to a night watchman.

The Kelly Motor Truck.

The Kelly motor truck, manufactured by the Kelly Motor Truck Co., Springfield, O., has made a well-recognized record by the number of prizes won in economy, durability and hill-climbing contests in the last two years. The manufacturers ascribe this success to the high class of work done on the car as well as to the materials used. The accompanying illustration shows one of the several sizes of Kelly motor trucks. This is its one-ton truck, and a description of its qualities will also be an exposition of the good qualities and high class of work which is devoted to its trucks of other capacities. In this work there are 200 operations in which the limits of error are held to 1-1000 of an inch; there are 20 operations in which

and will immediately resume its natural shape on reaching level ground. Both the front and rear axles are "I" beam sections, drop forged, with the spring seats forged integrally, thus obviating the slipping or shaking loose of the spring blocks. The jack shaft and transmission assembly of this truck have many excellent features. The entire assembly can be dropped out by removing six bolts. By putting in a double universal joint of the sliding block type between the clutch and the front end of the torque tube a universal motion is obtained so that the motor can be cranked with a car twisted as far out of line as it can go without upsetting. The gears can also be shifted with the car in this position. With all the advantages of this transmission the construction has been made very simple. The jack shaft is of the semi-floating variety and is dustproof. The rear sprockets are bolted to the brake drums, making replacement very easy. In the radius rod construction on this truck the manufacturers feel that they have something that is absolutely original and of the highest efficiency. With this model 16-inch by 2-inch brakes are fitted on both of the rear wheels. These brakes are so powerful that it is possible to slide the wheels with either brake when the truck is going down an 18 per cent. grade at 20 miles an hour with a full load. In order to obtain this result it has been necessary to design the radius rod on entirely original lines. This radius rod is made in one piece, the sprocket end of which is split with a tongue and groove, and then the parts are bolted together. The adjusting block fits inside of this, and the adjusting bolts are placed on either side of the adjusting block. By this construction all of the strain is taken on a solid forging, the bolts merely

FINANCIAL NEWS

The MANUFACTURERS RECORD invites information about Southern financial matters. Items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

Review of the Baltimore Market.

Office MANUFACTURERS RECORD,

Baltimore, Md., November 8.

In the Baltimore stock market during the past week United Railways common sold from 18 1/4 to 18 1/2; do. incomes, 63 1/4 to 64 1/2; do. funding 5s, 86 1/4 to 87 1/4; do. scrip, 90; do. notes, 5s 1, 99 1/4 to 99 1/2; do. 4s, 87 to 86 1/4; Consolidated Gas, Electric Light & Power common, 93 1/2 to 94; do. preferred, 99 1/2 to 99; do. 4 1/2s, 87 1/4 to 87; Consolidated Gas 4 1/2s, 97; Seaboard Air Line common, 23; Seaboard Company first preferred, 89 to 90; do. second preferred, 59 to 58 1/4; Seaboard 4s, stamped, 87 1/4 to 87 1/4; Seaboard Adjustment 5s, 80 to 80 1/4; do. equipment 4 1/2s, 1915, 99 1/2; Mt. Vernon-Woodberry Cotton Duck 5s, 78 1/4 to 78 1/2; G. B. S. Brewing 4s, 39 to 39 1/4.

Bank stock sold as follows: Bank of Baltimore, 178; German Bank, 108; Farmers and Merchants', 51 1/2; Western, 39; Citizens', 40 1/4 to 41.

Colonial Trust sold at 27 1/2; Maryland Trust preferred, 116; Mercantile Trust, 148 to 150; Baltimore Trust, 164 1/2; Fidelity & Deposit, 148.

Other securities were traded in thus: Alabama Consolidated Coal & Iron common, 35 to 36; do. preferred, 65; do. 5s, 84 1/2 to 85; Atlantic Coast Line of Connecticut, 240 to 245; Atlantic Coast Line Railroad, 127 1/2; Atlantic Coast Line of Connecticut 5-20s, 93 to 92 1/2; Atlantic Coast Line (Louisville & Nashville collateral trust) 4s, 93; Atlantic Coast Line convertible debenture 4s, 100 1/4 to 100 1/2; do. Consolidated 4s, 95 1/4; Atlantic Coast Line of South Carolina 4s, 96; Baltimore City 4s, 1937, 101 1/2; do. do. 1954, 101 1/4 to 101; do. do. 1925, 101 1/2; do. do. 1961, 102 1/4; do. 3 1/2s, 1936, 95; do. do. 1930, 95; do. 5s, 1916, 104; do. 4s, 1920, 101; Fairmont & Clarksburg Traction 5s, 99 1/2 to 100; Houston Oil common, certificates, 7 1/2 to 8; do. preferred, certificates, 70 1/2 to 70; Macon, Dublin & Savannah 5s, 98; Baltimore & Ohio stock, 98; Union

Pacific stock, 163 1/4; City and Suburban (Baltimore) 5s, 105 1/4 to 105 1/4; Fairmont & Clarksburg Traction preferred, 85; Augusta & Aiken preferred, 72; Maryland Club 4 1/2s, 97; Norfolk Railway & Light 5s, 99 1/2; Milwaukee Refunding 4 1/2s, 93 1/4 to 93 1/2; Northern Central Railway stock, 124 to 124 1/2; Baltimore Sparrows Point & Chesapeake 4 1/2s, 96 1/2; Virginia New 3s, 87 1/4; Jamison Coal & Coke, George's Creek 5s, 93; Consolidation Coal, 99 1/4 to 100 1/4; Georgia & Alabama Consolidated 5s, 106; Virginia Century, 87 1/2; Wilmington & Weldon 4s, 96; Metropolitan (Washington) 5s, 107 1/4; West Penn Traction 5s, 87; Georgia Southern & Florida first preferred, 94; Norfolk & Portsmouth Traction 5s, 89; Atlanta Consolidated Street Railway 5s, 105 1/4; Baltimore Electric preferred, 40 to 40 1/2; Maryland Electric 5s, 99; Fairmont & Clarksburg Traction preferred, 84; Georgia Southern & Florida 5s, 107 1/4; Carolina Central 4s, 92 1/4.

SECURITIES AT BALTIMORE

Last Quotations for the Week Ended November 8, 1911.

Railroad Stocks.	Par.	Bid.	Asked.
Atlantic Coast Line.....	100	128	129
Atlantic Coast of Conn.....	100	24	25
Fairmont & Clarks. Trac. Com. 100	100	72	73
Fairmont & Clarks. Trac. Pfd. 100	100	83	84
Georgia Sou. & Fla. 1st Pfd. 100	100	79	80
Georgia Sou. & Fla. 2d Pfd. 100	100	79	80
Norfolk Railway & Light.....	100	25	26
Seaboard Co. Common.....	100	20 1/2	21
Seaboard Co. 1st Pfd. 100	100	89	90
Seaboard Co. 2d Pfd. 100	100	59 1/2	60
United Ry. & Elec. Co. 100	100	18 1/4	19
Bank Stocks.			
Bank of Baltimore.....	100	172	178
Citizens'.....	100	40 1/2	41 1/2
Exchange.....	100	145	146
Farmers & Merchants'.....	100	51 1/2	52
First National.....	100	144	145
German-American.....	100	106	107
German.....	100	108	111
Mechanics'.....	100	28	29
Union.....	100	136	139
Western.....	100	38	41
Trust, Fidelity and Casualty Stocks.			
Continental Trust.....	100	210	225
Fidelity & Deposit.....	100	148	150
Maryland Trust.....	100	115	117
Maryland Trust Pfd. 100	100	115	117
Maryland Casualty.....	100	92	94
Union Trust.....	100	50	53
Miscellaneous Stocks.			
Ala. Con. Coal & Iron.....	100	35	36
Ala. Con. Coal & Iron Pfd. 100	100	45	46
Con. Gas, Elec. Lt. & P. Com. 100	100	94 1/2	95
Con. Gas, Elec. Lt. & P. Pfd. 100	100	98 1/2	99 1/2
Consolidation Coal.....	100	98 1/2	100
Georges Creek Coal.....	100	94	94
Railroad Bonds.			
Atlantic Coast 1st 4s.....	100	95 1/2	95 1/2
Atlantic Coast Conv. Deben. 4s.....	100	100 1/4	100 1/4
At. Coast (Conn.) 4s, Cfs., 5-20s.....	100	92 1/2	92 1/2
Atlantic Coast (Conn.) 5s, Cfs.....	100	105	105
Atlantic Coast (S. C.) 4s.....	100	90 1/2	90 1/2
Balto. & Annapolis S. L. 5s.....	100	70	72
Carolina Central 4s.....	100	92	92
Charleston & West. Car. 5s.....	100	105 1/2	105 1/2
Coal & Iron Railway 5s.....	100	101 1/2	102
Florida Southern 4s.....	100	92	92 1/2
Georgia & Alabama 5s.....	100	107	107
Georgia, Carolina & North. 1st 5s.....	100	105 1/2	105 1/2
Georgia Pacific 1st 6s.....	100	112 1/2	112 1/2
Georgia Southern & Fla. 1st 5s.....	100	107	107
Macon, Dublin & Savannah 5s.....	100	98	99
Potomac Valley 1st 5s.....	100	105	105
Savannah, Fla. & West. 6s.....	100	124	124
Seaboard 4s, Stamped.....	100	87 1/2	88
Seaboard Adjustment 5s.....	100	80 1/2	80 1/2
South Bound 5s.....	100	108 1/2	109
Virginia Midland 3d 5s.....	100	106 1/2	107
Virginia Midland 5th 5s.....	100	106	106
Western Maryland 4s.....	100	87 1/2	88
Western N. C. Con. 6s.....	100	104	105
Wilmington & Weldon 4s.....	100	95 1/2	95 1/2
Wilmington & Weldon 5s.....	100	111	111
Street Railway Bonds.			
Anacostia & Potomac 5s.....	100	102 1/2	102 1/2
Anacostia & Potomac 5s, 6td.....	100	101	102
Atlanta Con. Street Railway 5s.....	100	105 1/2	105 1/2
Baltimore, Sp. Pl. & C. 4 1/2s.....	100	96 1/2	96 1/2
Baltimore Traction (N. R.) 5s.....	100	110	111
Central Railway (Balto.) 5s.....	100	107 1/2	108 1/2
Charleston City Railway 5s.....	100	103	103
Charleston Con. Electric 5s.....	100	96	97 1/2
Citizens' R. L. & P. of N. S. 5s.....	100	70	70
City & Suburban 5s (Balto.).....	100	104 1/2	105 1/2
City & Suburban 5s (Wash.).....	100	104	105
Fairmont & Clarksburg Trac. 5s.....	100	98 1/2	99
Fairmont & Clarksburg Trac. Notes.....	100	99 1/2	100 1/2
Knoxville Traction 5s.....	100	105	105
Lake Roland Elevated 5s.....	100	108	108 1/2
Macon Railway & Light 5s.....	100	98	98
Maryland Electric Railways 5s.....	100	98 1/2	99 1/2
Memphis Street Railway 5s.....	100	98 1/2	99 1/2
Metropolitan 5s (Wash.).....	100	107	108 1/2
Newport News & Old Pt. G. M. 5s.....	100	82 1/2	83 1/2
Norfolk & Portsmouth Trac. 5s.....	100	99	99 1/2
Norfolk Railway & Light 5s.....	100	88 1/2	89 1/2
United Railways 1st 4s.....	100	86 1/2	87 1/2
United Railways Income 4s.....	100	64	64 1/2
United Railways Funding 5s.....	100	87	87 1/2
United Railways Notes 5s.....	100	99 1/2	99 1/2
Virginia Railway & Power 5s.....	100	94 1/2	95 1/2
Miscellaneous Bonds.			
Ala. Con. Coal & Iron 5s.....	100	84 1/2	85 1/2
Atlanta Gas 1st 5s.....	100	105 1/2	105 1/2
Baltimore Electric 5s, 8tp.....	100	94 1/2	95 1/2
Consolidated Gas 5s.....	100	96 1/2	97
Consolidated Gas 4 1/2s.....	100	87 1/2	87 1/2
Con. Gas, Elec. Lt. & P. 4 1/2s.....	100	98 1/2	99 1/2
Con. Gas, Elec. Lt. & P. Notes.....	100	99 1/2	99 1/2
Consolidation Coal Refd. 4 1/2s.....	100	93	93 1/2
Consolidation Coal Refd. 5s.....	100	95 1/2	95 1/2
Fairmont Coal 1st 5s.....	100	96 1/2	97 1/2
G. B. S. Brewing 1st 4s.....	100	39 1/2	40
G. B. S. Brewing Income 5s.....	100	78	78 1/2
Mt. Vernon-Woodby Cot. Duck 5s.....	100	78	78 1/2
United Elec. Lt. & P. 4 1/2s.....	100	99 1/2	99 1/2

[For Additional Financial News, See Pages 82 and 83.]

Established 1835
The Merchants National Bank
 South and Water Sts., BALTIMORE, MD.
 DOUGLAS H. THOMAS, President.
 WM. INGLE, Vice-Pres. and Cashier.
 J. C. WANDS, Asst. Cashier.
 JOHN B. H. DUNN, Asst. Cashier.
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 your needs, consult this bank regarding the re-
 quired additional facilities.
FIRST NATIONAL BANK
 RICHMOND, VA.
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 Assets over \$11,000,000.00

INVESTMENT SECURITIES
 Southern Stocks and Bonds
 Municipal and Corporation
 Cotton Mill Stock a Specialty
WM. S. GLENN, Broker - SPARTANBURG, S. C.

Delaware Trust Company
 WILMINGTON, DELAWARE
 INCORPORATING under broad, liberal, safe
 and stable Delaware laws. A fully equipped
 department for proper organization and re-
 gistration of corporations.
 BANKING AND TRUST department gives
 special attention to out of town customers' accounts.
 TITLE DEPARTMENT examines and guaran-
 tees title to realty throughout Delaware.
 REALTY DEPARTMENT has sites for manu-
 facturing industries. Modern methods of
 management of property.
 EDWARD T. CANBY, President.
 J. ERNEST SMITH, V.-Pres. and Gen. Counsel.
 WM. G. TAYLOR, Treasurer.
 HARRY W. DAVIS, Secretary.
 W.W. PUSEY, 2d Title and Real Estate Officer.

H. B. Wilcox, President. Blanchard Randall V.-Pres.
 Wm. S. Hammond, Cash. Saml. W. Tachudi, A. Cash.
 R. E. Bolling, A. Cash. Raymond B. Cox, Auditor.
The First National Bank
 17 South St., Baltimore, Md.
 Capital - - - \$1,000,000
 Surplus and Net Profits - - 500,000
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 1863-48 Years of Success-1911

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 OF BALTIMORE, MD.
 Hopkins Place, German and Liberty Sts.
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 July 15, 1908, Surplus and Profits \$671,631.60
OFFICERS:
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 SUMMERFIELD BALDWIN, Vice-Pres.
 R. VINTON LANSDALE, Cashier.
 C. G. MORGAN, Asst. Cashier.
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 Banks, Bankers and Individuals Invited.

JOHN NUVEEN & CO.
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 We purchase SCHOOL, COUNTY and MU-
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 Bonds a Specialty.
 Write us if you have bonds for sale.

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 tors, etc.

Southern Steam Railroad Securities
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F. J. LISMAN & CO.
 Specialists in Steam R. R. Securities
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 Interest Allowed on Deposits Subject to Check.
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 C. D. FENHAGEN, Secretary-Treasurer

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 Should know the cost and profit of each department. Many do not,
 but those who do, know that it pays. It is our business to devise
 accounting and cost systems for any kind of business—manufacturing,
 mercantile, commission, etc., and to come around periodically and see that
 things are going right. Let us look into your situation. Maybe we can
 suggest some desirable improvements.
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WE BUY City, County, School and Drainage BONDS
 FROM MUNICIPALITIES OR CONTRACTORS
 We are in position to pay HIGHEST PRICES. Write or wire us your offerings.
THE NEW FIRST NATIONAL BANK, Assets, \$6,000,000 Columbus, Ohio

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 OF MARYLAND
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 Pioneer Surety Co. of the South.
 Becomes Surety on bonds of every de-
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Correspondence Invited.

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 OF BALTIMORE

Established 1824.

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Capital and Surplus, \$4,500,000

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for engineering materials are high, but recent Gov-
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"AMERICAN" Pure Manila Rope

Is from 10% to 30% stronger than the standards set by the Govern-
 ment for the various sizes.
 "AMERICAN" brand rope is most economical because it gives the
 longest service and the greatest value for the money invested.
 We guarantee it to be made from pure, selected manila hemp, with-
 out any adulterant, inferior fibre or weighting substances whatever.
 It will help you to turn rope expense into rope economy. Every coil
 bears this stencil:



Manila Rope so marked represents the highest quality and as good
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 and

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of every size and kind for every possible require-

ment. Samples Free. "The Blue Book of

Rope Transmission" free upon request.

SOUTHERN COTTON-MILL STOCKS.

Quotations Furnished by William S. Glenn, Broker, Spartanburg, S. C., for Week Ending November 6.

Bid.	Asked.
Abbeville Cotton Mills (S. C.)	75
Aiken Mfg. Co. (S. C.)	80
American Spinning Co. (S. C.)	160
Anderson Cotton Mills (S. C.)	48
Anderson Cot. Mills (S. C.) Pfd.	100
Arcadia Mills (S. C.)	92
Arkwright Cotton Mills (S. C.)	99
Augusta Factory (Ga.)	40
Avondale Mills (Ala.)	116
Belton Mills (S. C.)	105
Brandon Mills (S. C.)	90
Brogan Mills (S. C.)	90
Cannon Mfg. Co. (N. C.)	135
Cabarrus Cotton Mills (N. C.)	130
Chadwick Mfg. Co. (N. C.) Pfd.	100
Chiquola Mfg. Co. (S. C.)	170
Clifton Mfg. Co. (S. C.) Pfd.	97
Clinton Cotton Mills (S. C.)	120
Columbus Mfg. Co. (Ga.)	93
Courtenay Mfg. Co. (S. C.)	100
Dallas Mfg. Co. (Ala.)	99
Darlington Mfg. Co. (S. C.)	80
D. E. Converse Co. (S. C.)	90
Drayton Mills (S. C.)	95
Eagle & Phenix Mills (Ga.)	117
Easley Cotton Mills (S. C.)	162
Enoree Mfg. Co. (S. C.)	60
Enoree Mfg. Co. (S. C.) Pfd.	96
Enterprise Mfg. Co. (Ga.)	65
Exposition Cotton Mills (Ga.)	200
Gaffney Mfg. Co. (S. C.)	57
Gainesville Cotton Mills (Ga.)	72
Glenwood Cotton Mills (S. C.)	120
Gluck Mills (S. C.)	99
Granby Cot. Mills (S. C.) 1st Pfd.	35
Graniteville Mfg. Co. (S. C.)	140
Greenwood Cotton Mills (S. C.)	57
Grendel Mills (S. C.)	90
Hartsville Cotton Mill (S. C.)	160
Henrietta Mills (N. C.)	109
Inman Mills (S. C.)	100
King Mfg. Co. (S. C.)	90
Lancaster Cotton Mills (S. C.)	130
Lancaster Cot. Mills (S. C.) Pfd.	97
Langley Mfg. Co. (S. C.)	104
Laurens Mills (S. C.)	120
Limestone Mills (S. C.)	156
Lockhart Mills (S. C.)	65
Lockhart Mills (S. C.) Pfd.	90
Loray Cotton Mills (S. C.) Pfd.	95
Marlboro Cotton Mills (S. C.)	90
Mills Mfg. Co. (S. C.)	102
Molloy Mfg. Co. (S. C.)	95
Monaghan Mills (S. C.)	100
Monarch Cotton Mills (S. C.)	105
Newberry Cotton Mills (S. C.)	125
Ninety-Six Cotton Mills (S. C.)	130
Norris Cotton Mills (S. C.)	121
Olympia Cotton Mills (S. C.)	90
Orr Cotton Mills (S. C.)	90
Pacolet Mfg. Co. (S. C.)	90
Pacolet Mfg. Co. (S. C.) Pfd.	95
Parker Common	40
Parker Pfd.	75
Pelzer Mfg. Co. (S. C.)	163
Piedmont Mfg. Co. (S. C.)	177
Poe Mfg. Co. (S. C.)	110
Saxon Mills (S. C.)	130
Sibley Mfg. Co. (Ga.)	68
Spartan Mills (S. C.)	130
Trilon Mfg. Co. (Ga.)	130
Tucapau Mills (S. C.)	300
Union-Buffalo (S. C.) 1st Pfd.	60
Union-Buffalo (S. C.) 2d Pfd.	15
Victor Mfg. Co. (S. C.)	110
Warren Mfg. Co. (S. C.)	90
Warren Mfg. Co. (S. C.) Pfd.	100
Washington Mills (Va.)	28
Whitney Mills (Va.) Pfd.	110
Whitney Mfg. Co. (S. C.)	110
Wicacassett Mills (N. C.)	135
Woodruff Cotton Mills (S. C.)	105
Woodside Cotton Mills (S. C.)	100
Watts Mills (S. C.)	70
Williamston Mills (S. C.)	110

FINANCIAL CORPORATIONS.

Ala., Waverly.—Official: The Farmers & Merchants' Bank incorporated; capital \$10,000. J. M. Moreman, president; John J. Hester, J. O. Webb and H. L. McClendon, vice-presidents, and J. I. F. Sharp, cashier. Business began October 10.

Ark., Benton.—The Bank of Benton, capital \$25,000, is reported chartered. J. S. Cargle, president; E. Y. Stinson and W. N. McCray, vice-presidents, and M. F. Scott, secretary and treasurer.

D. C., Washington.—Official: The J. Louis Willige Company is organized to do a general real estate, loan and insurance business in the District of Columbia, with offices at 1207 G St. N. W. Capital \$100,000; surplus \$300,000. Directors, J. Louis Willige, president; C. Edward Crump, first vice-president; William A. Foster, second vice-president; James G. Traylor, secretary; William P. Herbst, treasurer; Thad. B. Sargeant, sales manager, and Irving H. Charlotte, insurance manager. Business commenced October 23, 1911, as successor to Willige, Gibbs & Daniel, Inc.

Ga., Atlanta.—The Atlanta Assurance Co. of Atlanta is reported to have been commissioned to do business. Harry C. Conley is president; S. E. Smith, treasurer; John D. Dickson, vice-president, and J. R. Garner, medical director. Offices are in the Candler Building.

Ga., Atlanta.—The Cotton States Insurance Co., capital \$100,000, has published its charter. Petitioners, J. W. Griffin, J. M. Crume, R. H. McCrary, E. M. Jones and W. W. Crume.

Ga., Bostwick.—Official: The Bank of Bostwick chartered; capital \$25,000. Organ-

izers, E. W. Butler, Madison, Ga.; J. M. Preston, C. F. Riden, Bostwick, Ga., and B. H. McCrary, Athens, Ga. Business began November 1.

Ga., Denton.—Official: Chartered: Bank of Denton; capital \$25,000. Business began October 28 with G. O. Benton, president; Chas. E. Young, first vice-president; Jaly Galt, second vice-president, and Robt. F. Butler, cashier.

Ga., Hinesville.—Official: The Hinesville Bank chartered; capital \$25,000. J. R. Ryon, president; J. B. Way, vice-president; Lewis Ashmore, cashier. Business is expected to begin this month.

Ga., Dalton.—The Bank of Dalton, capital \$50,000, is to begin business January 1 with D. B. Barrett president, W. C. Fincher first vice-president, W. M. Sapp second vice-president, Buell Stark cashier, W. F. Wardlaw assistant cashier.

Ga., Kingston.—The Citizens' Bank is reported to have begun business in the Ligon Bldg. with R. L. Griffin president, J. B. Ligon vice-president and Mr. Phillips cashier.

Ga., Macon.—The Central Trust Co., capital \$1,000,000, is reported organized with J. J. Cobb, president. The new concern is said to have purchased the charter of the Union Savings Bank & Trust Co.

Ga., Millen.—The Jenkins County Savings Bank is reported chartered; capital \$25,000; T. Z. Daniel, president; E. S. Lane, Blitch, Ga., vice-president; A. E. Thompson, Greensboro, cashier; directors, T. Z. Daniel, E. S. Lane, Dr. R. Y. Lane, A. C. Parker, A. D. Lawrence, Dr. H. A. Jones, R. W. Matthews, W. S. Godbeem and A. S. Anderson.

Ga., Warthen.—The Farmers and Merchants' Bank is reported chartered; capital \$25,000; incorporators, John D. Walker of Sparta, J. H. Hooks, W. H. Frank and others.

Mo., Brooklyn.—The Brooklyn-Curtis Bank, a branch of the Annapolis Banking & Trust Co., is reported to have begun business with George T. Melvin, president, and A. B. Crisp, cashier.

Miss., Franklin.—The Bank of Franklin, capital \$40,000, is reported organized with directors thus: F. F. Becker of Brookhaven, W. C. McGehee of Little Springs, Dr. A. M. Dodds of Eddickton, D. B. McGehee, L. A. Whittington and J. F. Hellinger of Meadville.

Miss., Walnut.—The Bank of Walnut has published its charter; capital \$10,000. Incorporators, H. P. Luna, J. T. Hines and Luther Luna.

Mo., Springfield.—The German-American State Bank, capital \$50,000, is reported being organized by C. M. Ellis, cashier of the Franklin County Bank of Washington, Mo., and G. H. Boehm of Springfield.

Mo., St. Louis.—The Union Loan & Investment Co. of Missouri is reported incorporated with \$10,000 capital by W. W. Nott, W. M. Hangan and C. W. Hutchinson.

N. C., Bostic.—Official: The First State Bank chartered; capital \$5,000. S. B. Harrill, president; E. H. Washburn, vice-president; L. S. Thomas, cashier. Business is to begin January 1, 1912.

N. C., Durham.—The W. C. Lindsay Company, capital \$50,000, is reported chartered to do a real estate and insurance business.

N. C., Hamlet.—Official: The Citizens' Bank began business October 2 with O. T. Goodwin, president; W. R. Land, vice-president, and Samuel Abbott, cashier. Capital to date, \$11,750.

Okla., Frederick.—An official letter confirms report that the National Bank of Commerce is a conversion from Bank of Commerce.

Okla., Lone Wolf.—Reported chartered: The First National Bank of Lone Wolf; capital \$25,000; C. H. Griffith, president; A. L. Griffith, vice-president, and H. P. Griffith, cashier. This is a conversion of the Bank of Lone Wolf.

Tenn., Memphis.—The Parham Trust Co., Memphis, incorporated; capital \$100,000. Directors, Ernest R. Parham, president; Burton B. Well, vice-president; L. R. Griffin, J. A. Reachman, W. C. Pryor, Fred Goldsmith, C. G. Smith and John L. Parham. Business is to begin immediately.

Tenn., Oakdale.—Official: The Oakdale Bank & Trust Co. chartered; capital \$10,000. J. C. Alley, president; W. Y. Boswell, vice-president, and C. B. Johnson, cashier. Business is to begin about January 1, 1912.

Tenn., Stantonville.—The People's Bank of Stantonville is reported to have begun business; capital \$24,000; John R. Erwin, president; A. H. Combs, vice-president, and Frank P. Platt, cashier.

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ADDRESS

N. M. BLOCK, Chairman

Tex., Anahuac.—An election is to be held in Chambers county. It is reported, to vote on road construction bonds.

Tex., Austin.—The Bankers' International Insurance Co. of Austin is reported chartered; capital \$100,000; incorporators, F. C. Henrix, J. Lynn Hunter, H. F. Sterzing and J. G. Thredgill.

Tex., Bay City.—Reported that an election will soon be held in Matagorda county to vote on drainage bonds.

Tex., Bonita.—Official: The First National Bank of Bonita expects to begin business about January 1, 1912; S. H. Camp and others, organizers.

Tex., Dallas.—Official: The Oak Cliff State Bank & Trust Co. chartered; capital \$50,000. J. P. Hatfield, president; Geo. T. Reynolds, Raymond Thomas and W. M. Freeman, vice-presidents; Henry C. Barnard, cashier. Business is about to begin.

Tex., Dallas.—Official: The Magnolia Investment Co. incorporated; capital \$225,000. Directors: H. L. Bromberg, president; J. K. Hexter, secretary, and Dan Sonnenhehl, treasurer.

Tex., Donna.—The Donna State Bank is reported to have filed its charter; capital \$12,000; incorporators, J. M. Aven, E. E. Even, H. C. Davis and others.

Tex., Fort Worth.—Official: The Citizens' Securities Co. incorporated; capital \$25,000. Business began October 16 with directors thus: S. H. Cowan, president; T. W. Stack, vice-president; J. W. Scheuber, secretary; S. B. Burnett, I. H. Burney and A. F. Crowley.

Tex., Polcot.—A State bank capitalized at \$10,000 will, it is reported, organize with W. C. Fitch as cashier. Business is expected to begin soon.

Tex., Stockton.—Official: The Stockton Building Association incorporated; capital \$16,500. Directors, Frank Rooney, president; Herman H. Butz, secretary and treasurer, and L. B. Westerman, vice-president; John M. Odum and Shipton Parke. Business is to begin about January 1, 1912.

Va., Lynchburg.—The Moore County Bank is reported to have begun business with R. A. Parks president, Wiley Morris vice-president, and J. L. Haston cashier.

Va., Richmond.—The Bank of Savings and Trusts is reported organized with from \$250,000 to \$300,000 capital; H. R. Pollard, president; W. J. Whitehurst and S. T. Beveridge, vice-presidents; directors, W. J. Whitehurst, S. T. Beveridge, W. J. Gilman, John T. Wilson, H. S. Wallerstein, William Miles Cary, John L. Satterfield, T. C. Walford, John Bagby, Joseph P. Brady, Raphael Levy, W. H. Adams, H. W. Rountree, W. Conway Saunders, W. S. Forbes, W. B. West, Richmond Moore, Maurice A. Powers, Hill Montague and H. R. Pollard, Jr.

Va., Richmond.—The Southside Realty & Loan Co. is reported incorporated with from \$1000 to \$10,000 capital by Wm. H. Hughes, president; F. L. Williams, vice-president; S. W. Johnson, secretary; T. A. Turner, treasurer, all of Richmond, Va.

W. Va., Fairmont.—The Audit Company is reported incorporated with \$5000 capital by S. C. Miller, J. C. Miller, E. M. Showalter, J. F. Ritchie and A. G. Martin.

W. Va., Griffithville.—The Oil Field National Bank of Griffithville is reported chartered; capital \$25,000; H. W. Miller, president; H. C. Osborne, vice-president; J. C. Elger, cashier; Thomas J. Grass, assistant cashier. This is a conversion of the Oil Field Bank.

W. Va., Morgantown.—The Labor Building and Loan Association, capital \$135,000, is reported incorporated by John Alexander, L. W. Josephs, Van A. Barrickman, D. M. Wilfla, Henry S. Green, J. H. McDermott, Chas. F. Boehler, J. L. Wharton and F. E. Davis of Morgantown.

NEW SECURITIES.

Ala., Huntsville.—Voted: \$130,000 of 5 per cent. bonds to pay off city's indebtedness.

Ala., Mobile.—The question of holding an election to vote on \$35,000 of school bonds is reported being agitated. Laz Schwarz is Mayor.

Ala., Union Springs.—Official: November 12 an election is to be held to vote on \$35,000 of sanitary sewerage and \$5000 of standpipe bonds. P. L. Cowan is Clerk.

Ala., Tuscaloosa.—Bids will be received until December 5 by S. Friedman, Commissioner, for \$35,000 of 5 per cent. 30-year school bonds; denomination \$500.

Ark., Heber Springs.—Official: Bids will be opened November 24 for \$20,000 of 5 per

cent. 30-year school-building bonds. M. M. Irwin is president and R. G. Chandel secretary.

Fla., Arcadia.—Official: Bids will be received until noon November 30 for \$20,000 of water-works, \$20,000 of sewer and \$10,000 of street-improvement 5 per cent. bonds; denomination \$1000; dated June 1, 1911. Address J. L. Jones, secretary and treasurer.

Fla., Miami.—Press dispatches state that the \$200,000 of St. Lucie county road bonds have been declared valid by the Supreme Court and that county will now proceed with sale.

Ga., Athens.—The election to vote on Clarke county courthouse bonds will, it is stated, be held December 7.

Ga., Barnesville.—Official: \$50,000 of 5 per cent. 25-year school bonds were sold at par and premium of \$900 to the Citizens' Bank, Barnesville. J. C. Collier is Mayor.

Ga., Bryonville.—W. E. Dawson, Mayor, writes: "Our election went against bonds." This denies report that school and street-improvement bonds were voted.

Ga., Columbus.—Reported that an election is to be held to vote on \$50,000 of bridge bonds.

Ga., Decatur.—December 7, it is reported, an election is to be held in De Kalb county to vote on \$50,000 of road bonds.

Ga., Marietta.—November 15, it is reported, an election is to be held to vote on \$20,000 of 5 per cent. school bonds; denomination \$1000. E. H. Clay is Mayor.

Ga., Greensboro.—December 7, it is reported, an election is to be held to vote on \$75,000 of road and bridge bonds.

La., Baton Rouge.—The Interstate Bank & Trust Co. of New Orleans is reported to have agreed to take \$75,000 of school bonds.

Miss., Gulfport.—The election to be held in Harrison county to vote on \$75,000 of road bonds of district No. 4 will, it is stated, be held November 18. F. S. Hewes is Clerk.

Ga., Thomasville.—Regarding the report that an election is to be held to vote on \$1000 of school bonds, an official letter says: "No bonds here for schools."

La., Lake Charles.—The Knights of Maccabees have, it is reported, purchased \$25,000 of city hall bonds.

Mo., Aurora.—An official letter confirms report that bond issue was defeated.

Mo., Fulton.—Press dispatches state that the \$100,000 Calloway county bond issue has been declared invalid and that a new election will be held. T. W. Lynes is Clerk.

Mo., Lamar.—Reported voted: \$70,000 of electric-light and water-works bonds.

Mo., Princeton.—Reported voted: \$75,000 of Mercer county courthouse bonds.

Mo., St. Louis.—Charles P. Mason, secretary Board of Education, is reported to have purchased \$179,000 of St. Louis city bonds.

Mo., Webster Groves.—Reported voted: \$75,000 of water bonds.

N. C., Durham.—An election will probably be held, it is reported, to vote on school bonds.

N. C., Greenville.—The question of issuing street-paving bonds is reported being agitated. Regarding the foregoing, F. W. Wooten, the Mayor, writes: "We had no recent bond issue nor do we contemplate any in the near future."

N. C., Raleigh.—Press dispatches state that \$25,000 of market bonds are to be issued.

N. C., Red Springs.—Official: Bids will be received until 11 o'clock December 4 for \$35,000 of 6 per cent. 30-year water and sewerage bonds; denomination \$500; dated June 1, 1911; maturity 1941. Address A. B. Pearsall, chairman Board of Public Works.

N. C., Troy.—An election will be held in Montgomery county next January, it is reported, to vote on \$100,000 of good-roads bonds.

N. C., Winston.—Reported that a syndicate composed of the Wachovia Bank & Trust Co., the Security Trust Co. of Spartanburg, S. C., and A. B. Leach & Co., New York, have purchased at par \$150,000 of the \$350,000 of 4 1/2 per cent. 40-year improvement bonds. William D. Jackson is treasurer.

N. C., Wilmington.—Official: Bids will be received until November 15 for \$400,000 of 4 1/2 per cent. 40-year street improvement and water and sewerage bonds voted August, 1907; denomination \$1000; dated January 1, 1912. Address Thos. D. Meares, treasurer, Wilmington. Joseph D. Smith is Mayor.

Okla., Antlers.—Press dispatches state that it is proposed to form a road and bridge district out of Antlers, Finley and Klamich townships, Pushmataha county, to vote on \$30,000 of road and bridge bonds.

Okla., Lawton.—Official: The Investors' Securities Co., Des Moines, has been awarded \$70,000 of 5 per cent. 25-year funding bonds at par, accrued interest and \$1048 premium. C. L. Woodliff is City Clerk.

Okla., Oklahoma City.—Press dispatches state that it is proposed to issue \$1,250,000 of 5 per cent. 25-year road bonds of District No. 1, Oklahoma county.

S. C., Columbia.—Official: Townsend Scott & Son, Baltimore, have purchased \$75,000 of Columbia township bridge bonds.

Tenn., Chattanooga.—The First National Bank of Cleveland, O., is reported to have been awarded \$24,052.24 of paving bonds at \$50.25 premium. T. C. Thompson is Mayor.

Okla., Duncan.—Reported defeated: \$125,000 of road, bridge and courthouse bonds.

Okla., Olustee.—E. G. Walcott, village president, is reported offering at private sale \$20,000 of 6 per cent. water-works bonds.

Okla., Sapulpa.—Official: Defeated: \$125,000 of Creek county road bonds.

Tenn., Cookeville.—November 25, it is reported, an election is to be held to vote on \$30,000 of 5 per cent. 30-year water and light bonds.

Tenn., Dickson.—Bids will be received until February 1 by John M. Smith, Mayor, it is reported, for \$15,000 of 6 per cent. 30-year school bonds.

Tenn., Knoxville.—Official: The Third National Bank, Knoxville, Tenn., purchased on November 3 at par and \$250 premium \$50,000 of 6 per cent. one-five-year street-paving bonds; denomination \$1000. W. P. Chandler is secretary and treasurer.

Tenn., Knoxville.—The Third National Bank is reported to have purchased at par, accrued interest and \$250 premium \$50,000 of 6 per cent. paving bonds.

Tenn., Loudon.—The County Court of Loudon county is reported to have voted to issue \$100,000 of road bonds. The former action to issue \$25,000 of interest-bearing warrants was rescinded. W. C. Cannon is Chairman Loudon county.

Tenn., Madisonville.—Reported that bids will be received until 10 A. M. November 28 by Chas. A. Lowry, secretary of the Road Commission, for \$150,000 of 5 per cent. 20-year road bonds.

Tenn., Memphis.—Bids will be opened November 28, it is reported, for \$250,000 of 4 1/2 per cent. 35-year water-works extension bonds. It is also stated that an ordinance is to be introduced in the City Council providing for the sale of \$275,000 of bonds.

Tex., Alamo Heights, P. O. San Antonio.—Official: It is expected that the \$25,000 of Alamo Heights school district No. 48 bonds, voted October 6, will soon be put on the market. R. C. Jones is secretary of the district.

Tex., Amarillo.—November 4, it is reported, an election is to be held in Potter county to vote on \$40,000 of jail bonds.

Tex., Anderson.—November 20, it is reported, an election is to be held in Grimes county to vote on \$125,000 of road bonds.

Tex., Athens.—November 11, it is reported, an election is to be held in Henderson county to vote on \$150,000 of road construction bonds.

Tex., Austin.—The Attorney-General has approved the following securities: \$800,000 of 4 1/2 per cent. 10-40-year Dallas county road and building improvement bonds; \$67,000 of 4 1/2 per cent. 5-40-year water-works improvement bonds of New Braunfels; \$25,000 school buildings, \$50,000 sewers, \$25,000 street-improvement, \$15,000 city jail, \$60,000 parks and \$25,000 abattoir bonds of Beaumont; \$800 of 5 per cent. 10-20-year bonds of Smith county common school district No. 45; \$1000 of 5 per cent. 10-20-year bonds of Wood county common school district No. 29; \$1000 of 5 per cent. 10-20-year bonds of Coleman county common school district No. 26; \$4000 of 5 per cent. 5-40-year bonds of Brooksmith independent school district, Brown county; \$1000 of 5 per cent. 5-20-year Robertson county common school district No. 35; \$5000 of 10-40-year sewer, \$8000 of 15-40-year water-works and \$7000 of 10-40-year electric-light 5 per cent. bonds of Bryan.

Tex., Beaumont.—According to press dispatches, the \$80,000 of park bonds recently voted have been declared void and a new election is to be held.

Tex., Bellville.—Notice is given that bids will be received until 2 P. M. December 2 for \$100,000 of Road District No. 1, \$50,000 of Road District No. 2 and \$25,000 of Road District No. 3 Austin county 5 per cent. 5-40-year bonds. Address C. G. Kruger, County Judge.

Tex., Brownsville.—A Kansas City firm is reported to have purchased \$50,000 of light and water bonds.

Tex., Dallas.—Press dispatches state that early in 1912 an election will be held to vote on \$1,000,000 of street and city hall bonds.

Tex., Dallas.—Reported that bids will be received until noon November 22 by W. T. Henderson, chairman of finance and revenue, for \$250,000 of 4 per cent. school-improvement bonds; denomination \$1000; dated July 1, 1911.

Tex., Dallas.—Reported that all bids received November 1 for the \$500,000 of 4 1/2 per cent. Dallas county road and bridge bonds were rejected.

Tex., Flantonia.—Reported that C. E. Nesratta, president of the School Board, is offering for sale \$8000 of 5 per cent. school bonds.

Tex., Fort Worth.—Press dispatches state that the election to be held in Tarrant county to vote on \$1,600,000 of road and bridge bonds has been postponed from November 25 to December 12.

Tex., Fort Worth.—Official: December 5 an election is to be held to vote on \$25,000 of 6 per cent. 40-year school-building bonds of South Fort Worth school district No. 57; denomination \$100. O. P. Ripy is secretary board of trustees.

Tex., Honey Grove.—Official: Bids will be received by S. H. Gardner, Mayor, until 10 A. M. November 20 for \$5000 of 5 per cent. 20-40-year street-improvement bonds, dated July 1, 1911.

Tex., Kountze.—Official: A. B. Wood, bond dealer at Galveston and Dallas, has purchased \$10,000 of Hardin county school bonds.

Tex., Mineral Wells.—Reported that plan to hold an election to vote on \$100,000 of road bonds is being agitated.

Tex., Mt. Pleasant.—Mayor J. V. Moore is reported to have purchased \$16,000 of 5 per cent. 30-year sewer bonds. The bonds have been approved.

Tex., Orange.—H. J. Litcher is reported to have been awarded at par and interest \$143,000 of 5 per cent. 10-40-year water bonds of Orange County Navigation District.

Tex., Palestine.—November 11, it is reported, an election is to be held to vote on \$150,000 of 5 per cent. 20-40-year bonds of Road District No. 1, Anderson county.

Tex., Teague.—The Union National Bank of Cleveland, Ohio, is reported to have purchased \$30,000 of street bonds.

Tex., Waco.—An election will probably be held the early part of next year to vote on fire-station bonds.

Tex., Wichita Falls.—Official: Bids will be received until 9 A. M. November 15 for \$150,000 of 5 per cent. 10-40-year road bonds of Wichita county, Precinct No. 1; dated January 1, 1912; denomination \$1000. Bids will be received for the entire issue, giving buyer the option of paying for \$50,000 on January 1, 1912; \$50,000 July 1, 1912, and \$50,000 January 1, 1913, or of taking and paying for \$100,000 at date of delivery, and reserving to the county the right to accept bids for \$100,000 only. C. B. Felder is Judge Wichita county and W. A. Reid County Clerk.

W. Va., Grafton.—Holtz & Co., bankers and brokers, Chicago, are reported to have been awarded, at \$1091 premium, \$90,000 of 5 per cent. water-works bonds.

W. Va., Hollidays.—Reported voted: \$25,000 of bonds of Hollidays Cove School District.

W. Va., Huntington.—According to press dispatches, Cabell county is negotiating, through the First National Bank, for the sale of \$300,000 of road bonds.

At Arcadia, Fla., bids will be received until noon November 30 for \$20,000 of water-works, \$20,000 of sewer and \$10,000 of street-improvement 5 per cent. bonds. Further particulars will be found in the advertising columns.

At Honey Grove, Tex., bids will be received until 10 A. M. November 20 for \$5000 of 5 per cent. 20-40-year street improvement bonds. Further particulars will be found in the advertising columns.

FINANCIAL NOTES.

The Weyeross Savings & Trust Co. of Waycross, Ga., is reported to be doing business in its new quarters on Elizabeth St.

The Phillips County Land & Investment Co. of Helena, Ark., is reported to have increased its capital from \$10,000 to \$20,000.

Reported that the Union Bank & Trust Co. of Monroe, La., is to be converted into the Union National Bank and the capital increased from \$100,000 to \$200,000.

Dispatches from Charleston, W. Va., say that the Citizens' Fire Insurance Co. will remove to Baltimore, Md., and establish headquarters in the Fidelity & Deposit Co.'s Bldg.

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INDUSTRIES WANTED

STEEL BOLT, NUT AND RIVET FACTORY

STEEL BOLT, NUT AND RIVET FACTORY WANTED.—An excellent opportunity is now open in a Southern State for an experienced manufacturer with some capital to locate such a factory. A similar plant in the South does not today exist. The home market is large, but must depend entirely upon shipments from far-distant Northern cities. Cost of manufacture is lowest in the country. Steel, coal and low-priced power to be obtained near at hand. Intelligent labor easily obtainable. Citizens of the State are given exemption from taxation for terms of years. For further information refer to File No. 22508 and address Mr. V. Richards, Land and Industrial Agency, Southern Railway, Room 52, 1320 Penn. Ave., Washington, D. C.

WOOD EXTRACT PLANT

EXTRACT PLANT WANTED.—A opportunity in a Southeastern State awaits the person experienced in wood extract making. 10,000 cords of wood a year for the next 10 years are in immediate sight, and unquestionably a much larger amount will be available later. For further information refer to File 38765 and address M. V. Richards, Land and Industrial Agent, Southern Railway, Room 52, Washington, D. C.

MISCELLANEOUS

SUFFOLK.—The best manufacturing and distributing point in Virginia; six railroad and water transportation; plenty of labor; cheap fuel; electric power; twenty manufacturing plants in successful operation; opportunity for furniture and woodworking plants and any wholesale jobbing or manufacturing business; center of tidewater; richest farming section to be found; healthy; excellent schools and churches; filtered water, gas and sewer. Write Board of Trade, Suffolk, Va.

CLEVELAND, TENN., WANTS YOU.—The best town in the Southeast, with a hydroelectric development of 32,000 initial horsepower for manufacturing purposes, final development 83,000 horsepower; many manufacturing sites; exemption from city and county taxes; ample railroad facilities; spring water pumped to all parts of the city; cheap raw materials; 186 miles of pike roads in county; fine farming and trucking section; best of public utilities; cheap white labor; cheap power; ideal location for cotton mill, furniture factory and brick-manufacturing plant; good climate; most rapidly developing city in the Southeast. Write Commercial Club, Cleveland, Tennessee.

WANTED.—Asheville, N. C., 31,000 population, including suburbs; 38 miles paved streets; best water on earth; men with capital to invest in money-making enterprises; good opening for manufacturing enterprises. Write Board of Trade.

VICTORIA, TEXAS, head of navigation of Guadalupe River; center of cotton, corn, truck and citrus fruit-growing district of South Texas; country rapidly developing; opportunities for many industries. If interested in the coastal section of Texas, write for booklet "D" to the Secretary of the Progressive League.

"BUSIEST AND BEST BUILT CITY IN TEXAS," Wichita Falls possesses unsurpassed natural resources and advantages. Offers exceptional opportunities for investors; free sites for manufacturing establishments; cheap fuel; natural gas, oil, coal, electricity and abundant water from the best body of water in Texas; a railroad, new material at hand; latest approved public utilities; creosoted wood block pavement throughout business section; over fifty miles concrete sidewalks. Most rapidly developing city in Southwest. Handsome booklet and detailed information upon request. Address Chamber of Commerce, Wichita, Falls, Texas.

INDUSTRIAL PLANTS FOR SALE

MANUFACTURING PLANT

IN the last manufacturing city west of the Mississippi River; population 49,000; four trunk lines of railroad; two branch lines; two interurban lines; best railroad facilities in the State; building, brick and stone; two stories and large basement; facing two streets; alley in rear; railroad switch on other side; bargain if taken soon; good terms. Write for full particulars to the Northwestern Land Company, Over 213-215 First Avenue, Cedar Rapids, Iowa.

ROTARY VENEER PLANT

WANTED—A buyer for rotary veneer plant; 1½ acres land, office, factory and storage buildings, complete, with slide track; good timber; good railroad facilities; can be had at a bargain. Address Gilkey Veneer Co., Marion, N. C.

WOODWORKING PLANT

WOODWORKING PLANT FOR SALE OR RENT in a prosperous Southeastern city having excellent railroad facilities in all directions, could sell plant with several buildings and acres of land for \$15,000, or can be rented for \$2400 per year. Positive proof given that clear oak lumber can be stacked in the yard for \$15 per M feet. This gives a manufacturer of chairs, tables, etc., in fact, any kind of furniture, an immediate advantage over Northern manufacturers, who pay a much higher price for raw material. Investigate this opportunity at once, if interested, by referring to File 1421. Write M. V. Richards, Land and Industrial Agent, Southern Railway, Room 52, Washington, D.C.

HARDWOOD TRIM AND FLOORING PLANT

FOR SALE—Hardwood trim and flooring plant, located at Basic City, Virginia, making a profit of over \$50 daily; 3 acres of land; two railroads; fine factory buildings; for sale at sacrifice on account of sickness of owner. This will bear the most searching inspection. Address, for full particulars, Hibbard Realty Company, Staunton, Va.

COTTON MILLS

FOR SALE OR RENT—Large cotton-mill buildings, without machinery, situated adjacent to a good hydro-electric-power plant, in a prosperous Southern city. 21 tenement-houses, ready for immediate occupancy, go with the property. Local capital available to right parties.

Also a smaller mill, with machinery complete, suited for making cotton yarns. Most liberal propositions made if right party can be obtained. Refer to File No. 7500 for further information. M. V. Richards, Land and Industrial Agent, Southern Railway, Room 52, Washington, D. C.

FACTORY BUILDING

SMALL FACTORY BUILDING FOR SALE
OR RENT, located in Knoxville, Pa., on two
railroads and having natural gas and other
advantages; building is two stories, 50x180
feet, with additions; railroad switch right
at door of factory. For full information ad-
dress F. D. Freeborn, Knoxville, Pa.

PLANING MILL

PLANING MILL, Chattanooga, Tenn.—Complete equipment; fine location; good business; owners going into other business. Will sell at great bargain and easy terms. Union Lumber Co., Chattanooga, Tenn.

FLOUR AND GRIST MILL

A BARGAIN FOR QUICK PURCHASER.
A flour and grist mill, capacity 20 barrels per day; water and steam power; two-story mill; mill works new; twenty acres of land and improved by a seven-room house; water and floor; part of land in good state of cultivation; mill property at junction of five roads; two miles from railroad station; quality of flour very good and in good demand; neighborhood first class. Address George L. Stockdale, Trustee for C. H. Van Cleef and wife, Westminster, Md.

MINERAL AND TIMBER LANDS
WATER POWERS AND MISCELLANEOUS PROPERTIES

WANTED—To exchange real estate valued at \$286,000 for timber proposition; might pay some cash. Address J. W. Cook, 712 Jarvella St., N. S., Pittsburg, Pa.

WRITE for list New Orleans residence lots and factory sites; Louisiana mineral, timber, cut-over and farm lands. Orient Co., Ltd., 513 Audubon Bldg., New Orleans, Louisiana.

FINE SOUTH CAROLINA PROPERTY FOR SALE.—Forty-three acres of land, in $\frac{1}{2}$ of mile of cotton warehouse district of city of Augusta, Ga., second inland cotton mar-

ket of the world. My proposition is of the best; am owner of property; will sell or associate with good business man who means; 25 or 30 acres level as a table, that could be sold for building lots; would be fine site for hotel, courthouse, etc. On this property there is near one thousand cords of wood, all shades of sand, which can load on capital highway; the road is fine; several fine springs; last but not least, there is a cement gravel bed of best quality, with railroad in 15 feet of bed; also brick dwelling of two stories, 75 feet; above Augusta high water level, fine location for warehouses, office building, bank, and all kinds of business, above high water. Known as Shultz Hill. A bargain for someone. See J. M. Polatty at one, Warrenville, S. C.

Classified Opportunities

A REAL BARGAIN.—Modern suburban home capital city of Florida; three lots, each 55 ft. front by 150 ft.; new 10-room house with gas, electricity, water and sewerage; wire screened both floors; ideal neighborhood; State officers on either side; perfect title; price \$5000. M. C. McIntosh, Attorney-at-law, Tallahassee, Fla.

WRITE HELLBERG & BLAIR, 418 Roberts-Banner Bldg., El Paso, Texas, for information about business opportunities in all kinds and investments in town lots in the new town of Columbus, situated in the wonderful Lower Mimbres Valley, New Mexico, 74 miles west of El Paso, on the El Paso & Southwestern R. R. Pure soft shallow water for irrigation. Free Government land. Patented land at from \$15 to \$35 per acre.

FOR SALE.—Boundary of 256,000 acres in State of Durango, Mexico; good ranch, mineral and timber land; contains 500,000 feet yellow pine; railway building within 25 miles of lands; 25-mile tramway to new railway can be built at small cost; 100 miles to Pacific port of entry by rail, for ship-loading for use of Panama Canal route and for all American and European shipping markets. We control and can deliver promptly this valuable boundary for \$2.50 per acre; one-fourth down; one, two and three years for balance. Principals only need reply. Address for particulars, J. C. Lindley, Greensboro, N. C.

FACTORY SITES, Business Property, Residences and Farms. If interested in the metropolis of the Southwest or its territory, write for free land list and booklet on Houston, Texas (where 17 railroads meet the sea), or make your wants known. Bank references if desired. Central Land Co., 303 Theater Bldg., Houston, Texas.

COAL AND TIMBER LANDS

FOR SALE.—600 acres of coal and timber land, situated in Owsley county, Kentucky, 6 miles south of Booneville, on Indian Creek waters of the South Fork Kentucky River, and 3 miles from said river. This land contains over 6000 merchantable trees and is underlaid with a good workable seam of coal. Has a natural-gas spring that could be confined to run machinery. 60 acres of this land is a fertile valley under cultivation. Has a 6-room log dwelling, good barn, good chicken-house, and two other large storage buildings. A splendid orchard containing over 100 bearing apple trees, and a young orchard containing 100 trees of different varieties. This land is situated within 12 miles of two railroads and within 17 miles of slack water. The timber alone when marketed will net the amount I ask for the place. After the timber is removed the land may all be cultivated, and contains the very richest coal land. My price is \$15,000 net. Thos. L. Gabbard, McIntosh, Fla.

PHOSPHATE LAND FOR SALE

PHOSPHATE PROPERTIES.—The best undeveloped in Florida.—No. 1—1000 acres, guaranteed four million tons high-grade pebble, 98% to 73%. No. 2—450 acres, guaranteed ten million tons high-grade pebble, 65% to 76%. Reports and maps furnished. Titles guaranteed. Abstract furnished. Liberal time for examination to responsible parties. W. L. Van Duzer, Kissimmee, Fla.

TIMBER LAND FOR SALE

120,000 ACRES MAHOGANY TIMBER IN OLD MEXICO. Location, price and terms make it a veritable gift for quick action. Power & Brooks, Box 82, Montgomery, Ala.

FOR SALE.—Oak and hickory timber land in Virginia; 511 acres well set in white and mixed oak and hickory; estimated 500,000 feet saw timber, 20,000 white-oak ties, 250 cords hickory-spike timber; would also cut a big lot oak poles; good logging and excellent farming land if cleared; eight miles to railroad; good road; must sell; will take \$2000 if sold at once. For particulars write H. P. Baker, Columbia, Va.

TIMBER LAND FOR SALE.—1302 acres in North Carolina that will cut 7000 feet per acre, with a railroad surveyed through one side; 1000 acres in Tennessee along same line of railroad that will cut 8000 feet per acre; a rare bargain to be had in these lands. Also have an onyx quarry at a bargain; the stone cannot be excelled for beauty of figure and takes a very high polish; nothing to compare with it as an interior finish or decoration. For particulars address W. A. Owens, Lafollette, Tenn.

TIMBER FOR SALE

TIMBER.—I have for sale 270 acres of choice forest on pine timber, estimated to saw 3,000,000 feet of lumber, two miles from nearest railroad station. Apply to Alexander Barber, Fort Mill, S. C.

CUT-OVER TIMBER LANDS

CUT-OVER TIMBER TRACTS.
50,000 acres cut-over pine lands, Miss. \$2.50
30,000 acres cut-over pine lands, La. 1.00
75,000 acres cut-over pine lands, Tex. 5.00
15,000 acres cut-over hardwoods, La. 4.50
Marsh Lands for Reclamation.
80,000 acres in a body, Gulf Coast of La. 3.00
Timber Lands.
20,000 acres L. L. Y. pine, Fla., cut 3500 ft. 7.00
15,000 acres L. L. Y. pine, Ala., cut 7000 ft. 21.00
30,000 acres cut-over pine lands, Tex. 5.00
15,000 acres cut-over hardwoods, La. 4.50
Finest red gum growth.
Wm. R. Taylor, 508 Perrin Bldg., New Orleans, La.

10,730 ACRES Louisiana hardwood timber lands, 104,000,000 ft., on Sabine River, \$15 acre. 20,000 acres rich dark bottom cut-over hardwood, S. W. Arkansas, lands on Ry., \$6 acre. 36,000 acres Louisiana cutover lands, \$5 acre. Robert Sessions, Winthrop, Ark.

FARM AND TIMBER LANDS

FARM AND TIMBER LANDS.—We have attractive offerings in farm, yellow pine and hardwood timber lands. We also handle coal and ore properties. Correspondence from interested parties invited. Provident Trust & Security Co., Land Dept., Walton Bldg., Atlanta, Ga.

FOR SALE.—A beautiful orange and grapefruit grove in heart of Florida; pays handsomely. Also 50,000 acres valuable turpentine and timber lands located on the borders of beautiful lakes and rivers; a fortune for someone. L. Lasseter, Route 3, Tampa, Fla.

AGRICULTURAL TIMBER LANDS FOR SALE.—We have four tracts of hardwood timber, 1700 to 3500 acres, on which the timber will pay more than double the cost of the land, and all are in the very best farming districts of Texas, on or within three miles of railroad towns, and can be subdivided after the timber is cut off and sold for farms. Price \$12 per acre; easy terms. Write for full particulars. T. H. Barrow & Sons, Austin, Texas.

ARE YOU INTERESTED IN LAND? If so, would like to send you descriptive lists of the best farm and timber lands on earth, in Arkansas, Mississippi and Louisiana; land rents from \$5 to \$12 per acre; prices from \$10 per acre up. Hurst Trust Co., Nos. 3 and 4 Porter Bldg., Memphis, Tenn.

FOR SALE.—Large and small plantations in the rich Red River Valley, cheap and on easy terms; also large tract of hardwood. Apply to E. J. Iles, Alexandria, Louisiana.

I HAVE BARGAINS IN TIMBER TRACTS. large colonization propositions, cut-over lands and reclamation tracts in any size wanted up to 150,000 acres from \$2.50 per acre up. Wm. R. Taylor, Land and Timber Investments, 508 Perrin Building, New Orleans, La. Established 1898. Sales over \$6,000,000.

FOR SALE.—5000 acres, East Texas, frontage three miles on river; 12,000,000 feet hardwood timber on tract, 50 per cent. of same white oak; 2000 acres of tract rich bottom land; 75 per cent. of entire tract tillable when cleared. Price \$7 per acre. Railroad runs through land. This is a fine investment, as timber will pay for land twice over. 13,780 acres in South Texas, black sandy land, with frontage of several miles on river. This is one of the finest tracts of land in South Texas, well improved, and plenty of water over entire tract of land. Price \$15 per acre, and a great investment for capital. Title to both tracts perfect. Address Kendall & Wilson, Palestine, Texas.

FARM AND RANCH LANDS

90,000 acres Durango,	price \$1.75 per acre
80,250 acres Coahuila,	price 2.25 per acre
80,253 acres Chihuahua,	price 3.00 per acre
100,000 acres Sonora,	price 3.00 per acre
375,360 acres Durango,	price 3.00 per acre
162,783 acres Chihuahua,	price 2.00 per acre
135,147 acres Durango,	price 3.00 per acre
230,000 acres Coahuila,	price 1.50 per acre
3,500,000 acres Chihuahua,	price 2.50 per acre
405,000 acres Chihuahua,	price 2.00 per acre
30,600 acres Tamaulipas,	price 3.50 per acre
70,000 acres Chihuahua,	price 1.50 per acre
28,000 acres Chihuahua,	price 3.50 per acre
103,355 acres Tamaulipas,	price 2.25 per acre
179,648 acres Tamaulipas,	price 2.25 per acre
80,250 acres Coahuila,	price 2.75 per acre
1,115,640 acres Tamaulipas,	price 2.50 per acre
1,396,365 acres Sonora,	price .75 per acre
191,000 acres Sonora,	price .75 per acre
60,000 acres Durango,	price 4.50 per acre
200,000 acres Durango,	price 2.00 per acre
100,000 acres Sinaloa,	price 5.50 per acre

Cass & Fry, 30 City National Bank Building, El Paso, Texas.

2300-ACRE RANCH in Central Missouri, Morgan county; all under fence; lots of water in wells and springs; a fine grass proposition and the home of cattle and sheep, and now pays a good income. Price, \$12.50 per acre. McConnel, Elsmore, Kansas.

COLONIZATION LANDS

COLONIZATION LAND IN SOUTH GEORGIA.—We have on the Atlantic Coast Line Railroad, between Tifton and Waycross, Ga., several nice tracts for colonization. We can sell you five, ten, to fifteen thousand-acre tracts, none of it farther than four and a half miles from railroad station. This is high-class farm land, and will bear close investigation. Write C. L. Parker, Tifton, or McLendon Brothers, Atlanta, Ga.

TRACT FOR COLONIZATION.—12,000 acres in Lavaca and Jackson counties, Texas; 95 per cent. tillable; black waxy and black sandy land. On both sides of Lavaca River. Numerous settlements and good wells of water on tract; all subdivided and ready for colonizing. Will give good terms on this tract. Emil Locke, No. 713-13 Gibbs Bldg., San Antonio, Tex.

AM offering several small colonization tracts of exceptional merit and value. "Pine Crest" and "Gulfport Farms," total about 1000 acres; all surveyed into five-acre lots; mapped; illustrated booklets issued; near good town with hard-surfaced road connecting; beautiful lakes; settled country; price \$15.50 an acre; could include 1000 acres adjacent or nearby, not subdivided at \$1.50 an acre. Nothing better in Florida. Frank H. Davis, Apopka, Orange Co., Florida.

PECAN ORCHARDS

BUY A FIVE-ACRE PECAN ORCHARD in Alabama, "The Land of Plenty." I have fifty tracts of five acres each admirably adapted to this profitable crop. I manage tracts for non-resident owners if preferred, and can furnish best of references. Investigation invited. Write for full information and terms. Oscar V. Case, Fort Payne, Ala.

ORANGE GROVES

FOUR ORANGE GROVES on Clearwater Bay, in sight Gulf Mexico. Prices of each, \$6000, \$5500 and \$4500. M. J. McMullen, Largo, Hillsborough Co., Florida.

FARM, FRUIT AND TRUCK LANDS

ARKANSAS

500 ACRES; good residence; 65 acres in cultivation; half mile railroad station; soil sand and dirt mixed; price \$12.50 per acre. 150 acres, 70 acres in cultivation; one residence and one tenant-house; 1½ miles from railroad; price \$1800. J. R. Haygood, Arkadelphia, Ark.

SOUTHEAST ARKANSAS is the best farming section of the State. I have for sale several good places, as well as a fine plantation, near Eudora, in Chicot county. For further information address Dr. S. A. Scott, Box No. 29, Eudora, Ark.

FLORIDA

FLORIDA FARM, 1200 ACRES RECLAIMED LAND, ready for cultivation; drained direct into Biscayne Bay; county rock road; railroad station on property; crop from 300 acres planted this winter will net half as much as price asked for all. Thos. J. Peters, Perrine, Dade Co., Fla.

FARM BARGAIN.—193 acres, 40 on railroad cleared, 80 in good timber; seven-room house, four-room cottage, barn, horse and wagon, two top buggies; 200 bushels corn, 300 bundles fodder; splendid cotton land; some of this land will bring \$50 an acre; right at small town; real value, \$7000; for quick cash buyer \$5900 takes it. Subdivided in small farms will bring double this money. King & King, 404 West Bldg., Jacksonville, Fla.

ORANGES, grapefruit and tangerine groves, trucking and agricultural lands, building lots, improved and unimproved property on the fruitland peninsula, and in the garden spot of Florida. For pamphlet and other information address G. T. Graham, Crescent City, Florida.

FLORIDA FRUIT AND TRUCK LANDS.—We offer 10-acre tracts in that part of the State of Florida lying in Hillsborough county and Lake Butler region, in the Pinellas peninsula, on the west coast of Florida, on the Gulf of Mexico; with its elevation and rolling hills is especially suited for fruits of all kinds—grapefruit, oranges, grapes, dates, figs, bananas, peaches and other fruits, as well as vegetables, potatoes, corn, beans, peanuts and all the varieties that can be produced anywhere. The Tarpon Springs district offers the most favorable conditions for farmer, home seeker and investor. Fertile lands in small tracts, easy monthly payments; guaranteed title. Investigation invited. If you want a bargain and a home in the most desirable part of Florida, write now for particulars and reservation. Tampa & Tarpon Springs Land Co., Tampa, Florida.

WHY PALMETTO LEADS.—The 800,000 acres of fruits and vegetables that the superiority of soil, climate and irrigation necessary to produce such crops. The ease with which such crops are handled by rail and water make it an ideal place for fruit and vegetable growing. The Manatee River, Terra Cina and Tampa bays furnish ideal salt-water fishing, boating and bathing. For further information address The Manatee River Board of Trade, Palmetto, Florida.

FLORIDA FARMS ARE FORTUNES.—Our soil similar to fertile sections Iowa, Missouri, easy to plant. Write for booklet. Milton Land & Investment Co., Marianna, Fla.

FLORIDA GROVE.—26½ acres red land; quarter mile from railroad station; set in budded trees, best varieties oranges, grapefruit, Avocado pears, mangos; bearing next year. Price \$10,000. Thos. J. Peters, Perrine, Dade Co., Fla.

GEORGIA

GEORGIA FARM LANDS.—Great-grandfather of Colonel Roosevelt was married in mansion still standing on "Cedar Hill Plantation," a tract of 800 acres of choice improved and timber land 30 miles from Savannah, Ga. It is one of the numerous special bargains in farm and stock-raising lands which we are offering home-seekers who appreciate the great future in Georgia real estate. Write us today. Bernard & Waters, Box 92, Savannah, Ga.

LOUISIANA

HEADQUARTERS FOR NORTH LOUISIANA LANDS.—Large and small tracts, suitable for plantations, small farms, orchards or truck gardens. Climate, soil and health conditions here are unsurpassed. The staple crops of the North grow in this section alongside of cotton and cane. A great stock country. Write for particulars, stating your requirements. References, my customers and any bank in Shreveport. W. A. Jones, Authority on North Louisiana Lands, Shreveport, La.

CAPITALISTS, INVESTIGATE THIS.—Best investment in entire South and will double in value in three years. 300 acres within 1 mile of New Orleans city, 1½ miles frontage on Mississippi River; 1000 acres next to river in cane and rice; balance unimproved. Two railroads run through center of tract, and interurban electric line, with fine shell driveway now being built, will also run through it. No better land (if in Illinois) would be worth \$200 per acre. Will sell entire tract for \$145,000; one-third cash.

Anticipating opening Panama Canal, river traffic is growing rapidly and must reach gigantic proportions. Big coal companies are now leasing river frontage within quarter mile of this property at good price. What will this immense river frontage be worth in five years? If divided in five-acre tracts will sell readily \$200 per acre. It's the opportunity of a lifetime; no safer investment on earth. For full particulars write E. E. Woodcock, 1716 Milan, New Orleans, La.

218 ACRES of land for sale; 100 cleared, under net wire fence; 148 in timber; two tenant-houses, one dwelling, one barn; good water and stock range; school and church; railroad 2½ miles. For further information address R. E. Kiper, Gilbert, La.

MISSISSIPPI

500 ACRES black alfalfa land, East Mississippi; cleared; large home; 12 tenant-houses; no overflow; no malaria; \$37.50; easy terms. J. R. Haygood, Arkadelphia, Ark.

3565 ACRES of good hill cotton land for sale; now in successful operation; well supplied with negro labor. The plantation lies between two branches of the Illinois Central Railroad; nearest shipping point, four miles from the dwelling. The land corners within half mile of the railroad. A sufficiency of cabins for tenants, stables, cribs, cotton pens and all outbuildings. Forty-five head of mules and horses, cows, farming implements and feedstuff. Price very low. Terms good. Address A. C. Leigh, Grenada, Miss., bona-fide owner of the property.

NORTH CAROLINA

FARM FOR PROFIT in Eastern North Carolina, the "Nation's Garden Spot." Leads other localities for vegetables, fruits and staple farming on small capital. Home-seekers and investors write Carolina Trucking Development Co., 315 Southern Bldg., Wilmington, N. C.

TEXAS

PECOS PALISADES LANDS.—Ranch and irrigated lands in lower Pecos Valley. S. L. Estes, 405 North Texas Building, Dallas, Texas.

40,000 ACRES of fine agricultural land in the great St. Stephen valley in Presidio county, Texas; \$5 per acre; small cash payment; easy terms on balance.
4412 acres of fine grazing land in alternate tracts, Presidio county, Texas; \$1.50 per acre. West Heights Development Co., Marfa, Tex.

FARMERS AND INVESTORS can buy good Texas lands in a country of sunshine and health at \$5 to \$50 per acre that will yield three crops yearly on same acre with a profitable market for all. Interstate Realty & Improvement Co., 213 Temple Bldg., Houston, Texas.

IRRIGATED FARM.—450 acres of rich sandy loam, level, and to be irrigated from the famous Elephant Butte Dam, now in course of construction. This land can now be bought for \$35 an acre. Write us for full description. Loomis Bros., El Paso, Texas, Mexican Timber Lands.

FOR SALE.—23½ acres prairie land, located on Santa Fe Railroad and on public road (shelled) only 13 miles from Beaumont and one-quarter mile from Fannett; suitable for general farming or for subdividing into smaller tracts. Title perfect. Price \$27.50 per acre. Also other lands suitable for subdivision. Texas Realty Co., Beaumont, Texas.

JAS. GOODE REAL ESTATE CO., ranch and irrigated lands. Office, Orient Hotel, Pecos, Tex.

THE BLACK LANDS OF NORTH TEXAS are justly famous as the best in the world for the production of cotton, corn, wheat and oats—not one crop, but four. Once Goodwin's Denton Creek Subdivision consists of more than 8000 acres of this land, situated on the Denton and Wise county line, 50 miles northwest of Dallas, and is offered at reasonable prices—thirty to forty dollars per acre—and upon such terms that any man with a few hundred dollars cash can easily meet. The gradual and steady enhancement in value of such land should appeal to investors, while the very easy terms upon which it is offered should appeal to the farmer without a home. Address Fount Bay, Decatur, Texas.

15-ACRE HOME FOR YOU in Sunny South Land of Texas. Present crop of Irish and sweet potatoes, cabbage, fruits and vegetables worth \$1500; good barn, implements, stock, household goods and fine well of water; good roads, schools, churches and stores close. All for \$3700; easy terms. Interstate Realty & Improvement Co., 213 Temple Bldg., Houston, Texas.

TEXAS is the land of golden opportunities for every American wage-worker; best of them truthfully described in our free booklet. Write Dept. A, Walter A. Magill, Sec., Bay City, Tex.

Classified Opportunities

[CONTINUED FROM PAGES 84 AND 85.]

TEXAS COTTON AND SUGAR PLANTATION.—2000-acre plantation on Colorado river, near Eagle Lake; railroad switch on property; about 1000 acres river-bottom land in cultivation; 18 houses, barns, cribs and cotton gin, grist mill, blacksmith shop and many other improvements; 200 head stock; about 40 horses and mules; planted this year in cotton and corn; finest pecan grove in South Texas on property. Altogether is finest and cheapest thing in State. Everything goes for \$35 per acre; easy terms. Kullenberg Realty Co., 302 Gibbs Bldg., San Antonio, Texas.

HAVE ABOUT 50 ACRES in the artesian belt, Dimmit county, in cultivation under irrigation; good house, pump, engine; \$65 per acre. Ross W. Davis, 404-405 Moore Building, San Antonio, Texas.

IRRIGATED LANDS.—Parties in the North, East and Middle West interested in improved and unimproved irrigated lands and ranch property in the great Pecos section, communicate with us. Pawkett & Davis, Pecos, Tex.

FOR SALE—8000 acres about 40 miles east of Austin (the capital of Texas), mainly good agricultural land. (Average rainfall for fifty years about thirty-three inches.) A sure-crop country. Price \$10 per acre. Geo. W. Walling, Jr., Austin, Texas.

COTTON AND CORN LAND.—12,500 acres, near two good railroads, being one mile from one and two miles from the other; splendid colonization tract; at \$10 per acre; one-fourth cash; balance 6 per cent. Address owner, Dr. C. S. Preston, 1007 Scanlan Bldg., Houston, Texas.

450 ACRES BRAZOS VALLEY LAND: best potato, corn, cotton and alfalfa land in the world; per acre, \$35. Write for particulars. N. B. Knight & Co., Houston, Texas.

THE FRIO VALLEY WINTER GARDENS. La Salle county, Southwest Texas, a colony of 100,000 acres level rich black sandy loam in famous artesian belt; grow oranges, figs, Bermuda onions. We are opening Fowlerton, a new town on new railroad in heart of the colony. Guaranteed improvements on town site. A 10-acre farm and free residence lot on terms of \$15 cash; balance \$10 monthly. Write for booklet A. prices, plats, etc. Fowler Brothers Land Co., Frost Building, San Antonio, Texas.

GREATER HOUSTON (Population over 100,000).—Just twelve miles out on Main street (Houston's \$200,000,000 thoroughfare) is located North Houston Gardens; 10-acre tracts only \$300; terms, \$25 cash, balance \$15 per month, no interest; five-acre tracts, \$300; terms \$15 cash, balance \$7.50 per month, no interest; 142-acre improved farm 50 miles from Houston, price \$25 per acre. H. S. Taylor, Scanlan Bldg., Houston, Texas, Member Houston Real Estate Exchange and the Texas Realty Association.

\$5 PER ACRE ONLY for section of good agricultural land in the Sunny Coast Country of Texas. Three crops yearly can be raised on the same acre, realizing you \$25 to \$30 per acre for each crop; ready market; schools, churches and railroads close by. Write quick before sold. Interstate Realty & Improvement Co., 213 Temple Bldg., Houston, Texas.

WACO, TEXAS.—Central and South Texas farms and ranches a specialty. South Texas fig and orange lands offer best dividends on investments from \$60 to \$150 per acre. Write us for particulars. Elder & McDonald, Room 614 Amicable Bldg., Waco, Tex.

VIRGINIA AND MARYLAND

FOR SALE—Best farm proposition for price, quality and location in Loudoun county, Virginia; by railway station; 383 acres; will subdivide. DeL. S. Crittenden, Ashburn, Va.

MACHINERY AND SUPPLIES

WANTED.—Every consumer in the Southwest to know that the Texas Rolling Mill Company of Fort Worth, Texas, manufactures track spikes, track bolts, machine bolts and nuts; also standard sizes of bar iron. One hundred tons always in stock. Prompt shipments our specialty. Satisfaction guaranteed.

FINANCIAL

SAVANNAH, GA.—Real estate loans paying 6 per cent. to 7 per cent. to the investor; absolutely safe. Beautiful sites for winter homes at Vernon View, the salt-water place near Savannah on the Grand Prize Course; ideal winter climate. G. A. Mercer, Law and Real Estate, Savannah, Ga. References: Any bank or trust company in Savannah.

8 PER CENT. 5-YEAR OKLAHOMA FARM MORTGAGES.—Yes, rate is high, but sure and easily paid; conditions warrant it, and you get benefit; lands cheap, rich; values doubling; 25 years' experience in Southwest; 10 years bank cashier here; know people, lands, laws, resources, local conditions; never lost a mortgage nor had a title contested; abundant references; circular; investigate. J. G. James, Roff, Oklahoma.

PROFESSIONAL

ARE YOU POSTED on twentieth-century patent searching? The engineer service separate from law practice? Read No. 2-B, Inventor's Pocket Library, free for stamp. Engineer Searching Co., Fleming Bldg., Washington, D. C.

PATENT ATTORNEYS

EUGENE C. BROWN, ENGINEER and Patent Lawyer, Suite 40 Victor Bldg., Washington, D. C. Member Bar U. S. Supreme Court. Patents and Trademarks; Patent Suits for infringement. Mr. Brown is especially qualified to prosecute cases in Patent Office and patent litigation from both Engineering and Legal standpoints, having been Examiner in U. S. Patent Office for nine years. Send sketch for advice.

PATENT YOUR IDEAS.—\$100,000 offered for one invention, \$8500 for another; book, "How to Obtain a Patent" and "What to Invent," sent free; send rough sketch for free report as to patentability; patent obtained or fee returned. We advertise your patent for sale at our expense. Chandler & Chandler, patent attorneys, 978 F street, Washington, D. C.

PATENT WHAT YOU INVENT.—Your ideas may bring you a fortune. Our free books tell what to invent and how to obtain a patent. Send sketch of invention for free opinion as to patentability. Patents obtained or fee returned. Patents advertised for sale free. H. Ellis Chandler & Co., successors to Woodward & Chandler, Suite 75 Borneo Bldg., Washington, D. C.

PATENTS OF QUALITY.—The valuable and salable kind. Send for free advisory information. Reference to clients throughout the U. S. Geo. R. Hamlin, Patent Lawyer, Inventive Age Bldg., Washington, D. C.

IDEAS WANTED.—Manufacturers are writing for patents procured through me. Send for free 72-page guide and "Stepping Stones" (containing over 200 inventions wanted). Personal services. Clients' patents sold free. Trade-marks registered. R. B. Owen, Dept. 12, Washington, D. C.

PATENTS Secured or Fee Returned. Send sketch for free report as to patentability. Guide book and what to invent, with valuable list of inventions wanted, sent free; \$1,000,000 offered for one invention; \$15,000 for others. Patents secured by us advertised free in World's Progress; sample free. Victor J. Evans & Co., Washington, D. C.

PATENTS FOR SALE

WE HAVE recently secured the following patents. Address all communications to Sales Dept., Victor J. Evans & Co., Washington, D. C.: W. D. Reist, trophy placer; Jos. Soro, presser and creaser for trousers; J. H. Wright, jackcrew; E. D. Coultas, mail sack holder; Chas. M. Gates, anti-rail-spreading device; Wilfrid Barlow, smoke bell brackets for chandeliers; B. F. Deuel, cork puller; W. H. Beckett, seed distributor; Giles S. Doty and John D. Shaw, elastic tires; Ezra B. Rodman, automatic checker; Wm. D. Smith, nut lock; James S. Stone, harness attach; James W. Scott, rail joint; Edw. J. Morin, hat holder; D. S. Marple, automatic gas cut-off; Frank R. Sartor, water-tube boiler; J. T. Loomis, destroyer; Conrad Hill, apparatus for separating wax from plants; John B. Guy, safety bathing uniform; Arthur D. Hallett, match safe; E. A. Biggs, churns and operating mechanism; Roy W. English, engine; Arthur Burton, burner; Alex. Knappenberger, crushing mill; J. C. Burns, tie remover.

FOR SALE.—U. S. patent, automatic advertising electric machine very large daily profit, with small investment of money. J. Bandieri, 111 Garfield Pl., Cincinnati, Ohio.

FOR SALE.—Patents for the latest, simplest and most up-to-date excelsior-cutting machines; age (70) and failing health reason for disposal. Address No. 878, care Manufacturers Record.

In Course of Construction

Bibb Sewer Pipe Co.

MACON, GEORGIA

Will Manufacture
Salt Glazed Vitrified Sewer Pipe
Fire Clay Flue Linings
Stove Pipe
Wall Coping

We Will be Ready to Make Deliveries about December 15

Inquiries Solicited

One Way of Selling Used Machinery

is by advertising it in the Manufacturers Record. Send us a list of what you have to sell and we'll gladly tell you the cost of advertising it. The "Bargains in Machinery" pages of the Manufacturers Record are a market place for all kinds of machinery and equipment.

Place your machinery before the readers of this department.

PROPOSALS

PUBLIC BUILDINGS.

CONSTRUCTION BONDS

MISCELLANEOUS.

GOVERNMENT PROPOSALS

PROPOSALS FOR HOSE, STEEL AND Manganese-steel Castings, Lumber, and Piles. Sealed proposals will be received at the Office of the General Purchasing Officer, Indian Canal Commission, Washington, D. C., until 10.30 A. M. November 28, 1911, at which time they will be opened in public, for furnishing the above-mentioned articles. Blanks and general information relating to this Circular (No. 663) may be obtained from this office or the offices of the Assistant Purchasing Agents, 24 State Street, New York City; 614 Whitney-Central Building, New Orleans, La.; and 1086 North Point Street, San Francisco, Cal.; also from the U. S. Engineer Offices in the following cities: Seattle, Wash.; Los Angeles, Cal.; Baltimore, Md.; Philadelphia, Pa.; Pittsburgh, Pa.; Boston, Mass.; Buffalo, N. Y.; Cleveland, Ohio; Cincinnati, Ohio; Chicago, Ill.; St. Louis, Mo.; Detroit, Mich.; Milwaukee, Wis.; St. Paul, Minn.; Chattanooga, Tenn.; Louisville, Ky.; Mobile, Ala.; and Galveston, Tex.; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill.; and Commercial Club, Tacoma, Wash. F. C. BOGGS, Major, Corps of Engineers, U. S. A., General purchasing Officer.

PROPOSALS FOR TRACK FROGS, IRON Washers, Solder, Stovepipe, Soil-pipe Fittings, Oilers, Water Coolers, Asbestos Packing, Sash Cord, Coal Tar, Lard Oil, Chrome Green, Umber, Shipping Tags, and Paper. Sealed proposals will be received at the Office of the General Purchasing Officer, Indian Canal Commission, Washington, D. C., until 10.30 A. M. November 21, 1911, at which time they will be opened in public, for furnishing the above-mentioned articles. Blanks and general information relating to this Circular (No. 664) may be obtained from this office or the offices of the Assistant Purchasing Agents, 24 State Street, New York City; 614 Whitney-Central Building, New Orleans, La.; and 1086 North Point Street, San Francisco, Cal.; also from the U. S. Engineer Offices in the following cities: Seattle, Wash.; Los Angeles, Cal.; Baltimore, Md.; Philadelphia, Pa.; Pittsburgh, Pa.; Boston, Mass.; Buffalo, N. Y.; Cleveland, Ohio; Cincinnati, Ohio; Chicago, Ill.; St. Louis, Mo.; Detroit, Mich.; Milwaukee, Wis.; St. Paul, Minn.; Chattanooga, Tenn.; Louisville, Ky.; Mobile, Ala.; and Galveston, Tex.; Commercial Club, Kansas City, Mo.; Chamber of Commerce, Quincy, Ill.; and Commercial Club, Tacoma, Wash. F. C. BOGGS, Major, Corps of Engineers, U. S. A., General purchasing Officer.

MISSISSIPPI RIVER COMMISSION, 1st and 2d Districts, U. S. Engineer Office, Memphis, Tenn., October 25, 1911. Sealed proposals for furnishing one locomotive crane will be received at this office until 12 o'clock noon November 24, 1911, and then publicly opened. Information on application. CLARKE S. SMITH, Maj., Engrs.

U. S. ENGINEER OFFICE, 920 17th St. N. W., Washington, D. C., October 19, 1911. Sealed proposals for dredging in Mataponi and Pamunkey Rivers, Va., will be received here until 12 M. November 18, 1911, and then publicly opened. Information on application. W. C. LANGFITT, Lt.-Col., Engrs.

NEW BOND OFFERINGS

Bonds for Sale

The Town of Enfield, N. C., invites bids for ten thousand dollars' worth of twenty-year six per cent. coupon bonds for an electric-light system. Bonds in denomination of \$500, one bond payable every year. Interest payable semi-annually. No bid considered unless accompanied by certified check or N. Y. exchange for 10 per cent. of bid. Bids opened December 6, 1911. Right reserved to reject any and all bids. Bids should be addressed to and full information can be obtained by addressing

W. T. CLEMENT,
Mayor.

Enfield, N. C., October 26, 1911.

Five Hundred and Twenty-four Thousand Dollars (\$524,000) Refunding Bonds of the City of Houston, Texas

NOTICE TO BOND BUYERS.

Sealed bids will be received by the City of Houston, Texas, until 12 o'clock noon Monday, December 11, 1911, for the issue of five hundred and twenty-four thousand dollars (\$524,000) five per cent. (5%) Refunding Bonds, bearing date the 15th day of October, A. D. 1911, interest payable semi-annually at the office of the Union Trust Company in the city of New York; said bonds to run thirty (30) years, with an option reserved by the city of Houston to pay same at the expiration of twenty (20) years.

Each bid for the above issue of bonds must be accompanied by a certified check on a Houston bank, payable to H. B. Rice, Mayor, for one per cent. (1%) of the face value of said issue as a guaranty of good faith; bonds to be delivered and money paid in Houston, Texas.

The city of Houston reserves the right to reject any and all bids.

H. B. RICE,
Mayor of the City of Houston.

Attest:
DAN C. SMITH, JR.,
City Secretary.

Sale of Missouri State Bonds

Three and a half per cent. Capitol Building Bonds.

Dated January 1, 1912. Optional in eight years and redeemable in thirteen years.

Issue, \$3,500,000.00. To be issued in denominations of \$1,000.00 in coupon form, with interest payable semi-annually on the first of January and the first of July of each year.

These bonds will be sold on Friday, December 1, 1911, at 12 o'clock noon, at the office of the State Board of Fund Commissioners in Jefferson City, Missouri. No bids will be accepted for less than the par value of the bonds, nor unless accompanied by a deposit of money or by a certified check or bank draft upon a solvent bank or trust company of the cities of Jefferson City, Kansas City, St. Louis, Chicago or New York, payable to the order of the State Treasury of Missouri, for at least five per cent. of the par value of the bonds bid for.

All bids, together with the security deposits, must be sealed and endorsed "Bid for Missouri State Capitol Bonds," and enclosed in a sealed envelope directed to the "State Board of Fund Commissioners, Jefferson City, Missouri, care of James Cowgill, State Treasurer."

These bonds will be ready for delivery to the purchaser on January 1, 1912. The State Board of Fund Commissioners reserves the right to reject any or all bids which are not considered advantageous to the State. The Board of Fund Commissioners further reserves the right to issue at least \$500,000.00 of the bonds in the denomination of \$500.00.

Further particulars can be secured by addressing James Cowgill, State Treasurer, Jefferson City, Mo.

The State of Missouri has no other bonded indebtedness, and the payment of the interest and principal of this issue of bonds is provided for by a special tax of 2 cents on the \$100 of assessed valuation. The total assessment of all classes of property in the State for the taxes of the current year is \$1,804,298,191.00.

HERBERT S. HADLEY, Governor,
JOHN P. GORDON, Auditor,
ELLIOTT W. MAJOR, Attorney-General,
JAMES COWGILL, State Treasurer,
Board of Fund Commissioners of the State of Missouri.

City Bonds For Sale

The Board of Bond Trustees of the City of Arcadia, Florida, will receive sealed bids until 12 o'clock M. November 30, 1911, for the purchase of the following bonds of said city of Arcadia, Florida, to wit:

\$20,000 Extension and Improvement of Water-works.
\$20,000 Extension and Improvement of Sewerage.

\$10,000 Street Improvement and Pavement.

Said bonds are of the denomination of \$1000 each, bear interest at the rate of five per centum per annum, are dated June 1, A. D. 1911, and are payable thirty years after date. The interest on said bonds is payable semi-annually on the first day of December and on the first day of June of each year. Principal and interest payable at the office of the City Treasurer, Arcadia, Florida.

All bids to be accompanied by a certified check for two per cent. of the amount of the bonds bid for.

This bond issue was validated, confirmed and ratified by special act of Florida Legislature, approved by the Governor May 29, 1911.

The Bond Trustees reserve the right to reject any and all bids.

J. L. JONES,
Secretary and Treasurer.

\$5000 City of Honey Grove (Texas) Street Improvement Bonds

Bids will be received by the undersigned until 10 o'clock A. M. November 20, 1911, if not sooner sold, for the purchase of five \$1000 5 per cent. 20-40 City of Honey Grove Street Improvement Bonds, dated July 1, 1911, interest payable semi-annually at the National Park Bank, New York. The right to reject any and all bids is reserved. Address

S. H. GARDNER, Mayor,
Honey Grove, Texas.
November 3, 1911.

\$31,500 5% Bonds

Harlingen, Texas.

Sealed bids will be received until 2 P. M. November 25, 1911, for the purchase of the following bonds, issued by the city of Harlingen, Texas, approved by the Attorney-General and registered by the Comptroller of Texas, as required by law.

\$21,500 Water and Light Bonds.

\$10,000 Road, Bridge and Street Bonds.

All bonds of denomination of \$500, dated September 27, 1911, due 40 years after date, option of redemption after 20 years, 5 per cent. semi-annual interest. Bonds payable at Hanover National Bank, New York; Union Trust Co., St. Louis, Mo.; Treasurer of Texas, at Austin, Texas; or at Harlingen, Texas, at option of holder. Abstract of bonds, certified by Comptroller of Texas, furnished successful bidder.

Certified check for 2 per cent. of amount of bid, payable to A. W. Cunningham, Mayor, must accompany bid.

No bids received for less than par and accrued interest. Right reserved to reject any and all bids.

Address A. W. Cunningham, Harlingen, Texas.

\$42,000 5% Sewer and Water-Works Bonds

Sealed bids will be received by the Mayor and Board of Public Works of the town of Kingstree, S. C., until twelve noon November 11, 1911, for the purchase of \$42,000 water-works bonds and \$14,000 sewer bonds, payable in forty years, with option of redemption in twenty years, bearing 5 per cent. interest, payable semi-annually, in one thousand denominations. Certified check for \$500 must accompany each bid as an evidence of good faith. The town reserves the right to accept or reject any or all bids. The town of Kingstree is the county seat of Williamsburg county, with a population of 2000, and free from any indebtedness. For further information address L. P. Kinder, Mayor, and LeRoy Lee, Chairman of Board of Public Works.

WATERWORKS AND SEWERS

Water-Works

The Board of Mayor and Aldermen of the town of Obion, Tennessee, will receive bids at the office of the Mayor for the construction of a water-works until 2 P. M. November 21, 1911. For all necessary information address S. J. Harris, Recorder, Obion, Tennessee; C. H. Jenks, Eng., Union City, Tenn.

Water-Works System

Bids will be received at the office of the Russellville Water & Light Co., Russellville, Arkansas, up to 2 o'clock P. M. of Monday, the 20th day of November, for furnishing material and constructing a water-works system in the City of Russellville.

The water-works system to consist of 22,000' 10" wood-stave pipe; 1100' 10" cast-iron pipe; 3075' 8" cast-iron pipe; 9925' 6" cast-iron pipe; 5680' 4" cast-iron pipe; 18 gate valves with boxes; 42 fire hydrants; 6 air-pressure valves; 2 500,000-gallons-per-day motor-driven turbine pumps; 2 30 H. P. 220-volt three-phase 60-cycle induction motors; 1 pump station and coagulating-house, and a coagulating reservoir. Plans and specifications may be seen in the office of the company at Russellville, or in the office of the Engineers, Fuller-Court Co., Chemical Bldg., St. Louis, Mo.

Extra sets of plans and specifications may be obtained from the Engineers upon payment of \$3 to cover cost of printing same.

ELECTRIC LIGHT AND WATER-WORKS

Electric Light and Water-Works

NOTICE.

Bids will be received by the Mayor and Board of Aldermen of Trenton, Tennessee, up until 4 P. M. November 17, 1911, for the construction of an Electric-Light System and a Water-Works Improvement, consisting of the following:

1—100 K. V. A. generator, engine type.
1—High-speed automatic engine.
1—150 H. P. R. T. boiler.
1—150 H. P. heater.
1—Deep well pump for 10-inch well.
1—150,000-gallon reservoir.
500 feet 8-inch cast-iron water pipe.
350 feet 10-inch supply main.
200 poles.
60,000 feet waterproof, triple-braid, No. 6 wire.

Pole line supplies, including insulators, pole-steps, crossarms, anchors, pins, etc.

Bids will be considered as a whole, and also from manufacturers direct. Certified check for 5 per cent. of the amount of the bid must accompany each bid, but no check for less than \$50 will be accepted. Right is reserved to reject any or all bids. Plans and specifications may be seen at the office of the Consulting Engineer or of the City Recorder after November 5.

W. E. SEAT, Mayor.
R. C. HUSTON, Consulting Engineer,
1634 Exchange Bldg., Memphis, Tenn.

MISCELLANEOUS

Plans for Supreme Court Building

The State Building Commission will receive at Tallahassee, Florida, until Thursday, December 7, 1911, at 10 o'clock A. M., architects' plans for a Supreme Court, Railroad Commission and Library Building in Tallahassee. A general description of the building desired will be furnished upon application to

A. C. CROOM,
Secretary Building Commission,
Tallahassee, Florida.

Six-Story Building

Bids will be received until twelve o'clock noon November 30, 1911, for the erection and entire completion of a six-story-and-basement fireproof building at Baton Rouge, La., for Mr. J. K. Roumain, according to plans and specifications and conditions for estimating, which can be had from Favrot & Livaudais, Ltd., Architects, No. 839 Gravier St., New Orleans, La.

Bids For Dredging

Bids will be received by Laws & Lovejoy at the office of the engineers until November 20, 1911, at 2 P. M., for the construction of 32,000 cubic yards of dredge fill at New Smyrna, Fla. Cross sections and specifications may be seen at the office of the engineers, or will be forwarded upon receipt of \$5. Laws & Lovejoy reserve the right to reject any or all bids.

D. D. & C. M. ROGERS,
Engineers,
Daytona, Fla.

Cast-Iron Water Pipe

Sealed bids for 33,000 linear feet of 10-inch Class "B" cast-iron water pipe will be received up until 5 P. M. November 20, 1911, by the City of Pryor Creek, Oklahoma. Pipe must come under specifications of American Water-Works Association for cast-iron pipe. The city reserves the right to reject any and all bids. The Benham Engineering Co., 812-13-14 American National Bank Building, Oklahoma City, Oklahoma, are Consulting and Supervising Engineers. Joe Hillin, City Clerk, Pryor Creek, Oklahoma.

Bids for Metallic Shelving and Cases

Sealed bids for metallic shelving and fixtures for certain offices in the Mobile County Courthouse are solicited. The same will be opened November 20, 1911, at 12 M.

Specifications can be seen in the Probate Court, and inspection of rooms is desired.

BOARD REVENUE AND
ROAD COMMISSIONERS,
Mobile, Ala.

Notice to Architects

Plans and specifications for the proposed buildings of the State Normal and Industrial School for White Women in the city of Radford will be received by the Board of Trustees of the School at a meeting to be held in Richmond, in the Capitol, on Tuesday, November the 14th, 1911. It is contemplated that the cost of the buildings will be one hundred and fifty to two hundred thousand dollars.

The location and relative situation of the Administration building and Dormitories should be indicated in the plans.

Blueprints may be had from Capt. W. T. Baldwin or the undersigned, by parties interested, of the site.

The Board reserves the right to reject any and all plans, and does not assume any responsibility or cost whatsoever, except to the Architect whose plans may be adopted.

The plans, in a sealed package, may be mailed to the undersigned at East Radford, or delivered to him in Richmond on the 14th of November.

By order of the Board.
G. E. CASSEL, Secretary.
East Radford, Va., October 9, 1911.

For Competitive Bids

FROM THE BEST FIRMS IN THE COUNTRY, USE THE

Proposal Columns

OF THE

MANUFACTURERS
RECORD

Special Advertisements of General Interest.

An Up-to-date Wood Working and Saw Mill Plant for Sale

Complete in every particular. Covering 2½ acres of land in the center of Norfolk, now doing a business of over \$100,000 per year. For sale cheap.

Details furnished on application.

ABBOTT MORRIS & CO.

NORFOLK, VA

GEORGIA FARM LAND FOR SALE

About 10,000 acres fertile farm land within 38 miles of Savannah, Georgia; healthy location and good water, suitable for colonization. A good stand of yellow pine timber, estimated at 20,000,000 feet and thousands of cords of wood. Located for seven miles on two main line railroads, giving low freight rates, secured by water transportation competition, to Northern markets, with all-year markets close at hand. Will not divide tract. Will sell outright or put in property and take interest with financially able developing company.

W. W. ROBERTSON, Owner

NORFOLK, VA.

Valuable Manufacturing and Commercial Property FOR LEASE IN ATLANTA

On account of our having moved our plant to a much larger site, the property formerly occupied by us on the corner of Whitehall Street and Stewart Avenue can be leased for a term of years. The property is about 12 squares from all the principal freight stations in Atlanta, and it is located on the Southern Railway, with two side tracks on the property. A suitable office building located on the property is immediately available, and from a convenient shipping and advertising standpoint this property is hardly excelled in the City of Atlanta.

For information or terms, address

VIRGINIA BRIDGE & IRON CO.

J. W. LEROUX, District Manager, ATLANTA, GA.

PEREMPTORY SALE AT Newark, Wayne Co., N. Y.

Automobile Manufacturing Plant

Formerly known as "THE MORA CO."
AT NEWARK, WAYNE COUNTY, NEW YORK

Tuesday, Nov. 14, and Wednesday, Nov. 15, 1911

AT 10 O'CLOCK, A. M., EACH DAY

Comprising the Entire Real Estate, Machinery, Cars, Material,
Parts, Patterns, Drawings, &c., of the "Mora Co."

REAL ESTATE, about 5 acres of ground, with Machine Building of modern construction, 60 by 400 feet. Test House, Blacksmith Shop, Boiler and Engine House, Railroad Siding from Penna. R. R., over which cars of New York Central and West Shore R. R. are handled.

MACHINERY, including Engine, Machine and Turret Lathes, Planers, Grinders, Milling Machines, Surfaces, Radial, Back Gear and Sensitive Drill Presses, Grinders and Polishers, Shafting, Belting, &c.

MATERIAL AND PARTS, including Drawings, Patterns, Jigs, Parts and Material used in assembling five types of the Mora Car.

50 AUTOMOBILES, including four, five and seven-passenger Touring Cars, Race types, four and six-passenger Torpedo body Cars, 1912 models.

OFFICE FURNITURE, Offices finished throughout in quartered oak, including Cabinets, Flat-top and Roll-top Desks, Chairs, Fire-proof Safes, Typewriters, &c.

THE PLANT was constructed within the last three years. The machinery and equipment throughout is of the most recent and modern type.

Catalogues mailed on application to the Auctioneers

JAMES A. FREEMAN'S SONS,

Auctioneers, S. W. Cor. 12th and Chestnut Streets, Philadelphia, Pa.

IF YOU ARE A MANUFACTURER AND WANT A GOOD SITE

let us tell you why you should investigate the sites we have for sale in **Canton, the Industrial Suburb of Baltimore.**

First-rate rail and water transportation. Fuel and raw material for almost any kind of industry readily obtained. Good labor securable. Right in the midst of a thriving manufacturing center. Southern market near and easily reached. In every respect these sites meet the requirements of modern commerce.

We will gladly go into detail with those interested.

J. LINDSAY CLARK & CO.

State Bank of Maryland Building

BALTIMORE, MD.

Bankrupt Sale of Valuable Coal Lease and Plant of Atlas Pocahontas Coal Company in the Pocahontas Coal Fields of West Virginia

Notice is hereby given that in pursuance of an order entered on the 9th day of September, 1911, in a bankrupt proceeding pending in the District Court of the United States for the Southern District of West Virginia, entitled "In the Matter of Atlas Pocahontas Coal Company, in Bankruptcy, No. 211," the undersigned, Trustee in Bankruptcy, will, on the 15th day of November, 1911, offer for sale at public auction to the highest bidder, unless sold at private sale before that time, at the front door of the building lately used and occupied by The Atlas Pocahontas Coal Company as a commissary or storehouse on the lease of the said Atlas Pocahontas Coal Company at Antler, in McDowell County, West Virginia, the following leasehold estate and property of the said Atlas Pocahontas Coal Company, namely:

That certain lease and leasehold estate owned by The Atlas Pocahontas Coal Company, containing about 500 acres, with all mining rights and privileges owned by said Company thereunder, along also with all storehouses, tenement-houses and other buildings, and all sidings, tracks, rails, etc., located on said lease, including also all mine cars, pipe, compressors, fans and other machinery on said lease owned by said Company.

This property is located in the great Pocahontas Coal Fields of West Virginia, in McDowell County, on the Norfolk & Western Railroad, near Welch, West Virginia, and is underlain with two valuable seams of coal.

Splendid opportunity for anyone desiring to engage in the coal-mining business. Terms of Sale: The personal property on the lease will be sold for cash unless sold along with the lease. The leasehold and personal property, if sold with the lease, will be sold for one-third cash, one-third in thirty and one-third in sixty days, the purchaser giving his notes for the deferred payments with approved security.

For further information apply to the undersigned trustee.

E. C. MARSHALL, Trustee,
Welch, West Virginia.

Notice of Public Sale by the Trustee of the Property of the **GEORGIA COTTON MILLS** of Dublin, Laurens County, Georgia

Notice is hereby given that the undersigned Trustee, under that certain Mortgage Deed of Trust executed by the Georgia Cotton Mills, a corporation of Dublin, Laurens County, Georgia, on the first day of March, 1909, recorded in the office of the Clerk of the Superior Court of the said county of Laurens in Book 54, pages 19 et seq., to secure the issue of bonds therein mentioned, and also as Trustee under that certain other Mortgage Deed of Trust executed by the said Georgia Cotton Mills on the first day of October, 1910, recorded in said Clerk's office in Book 58, pages 510 et seq., to secure the issue of bonds therein mentioned, defaults having occurred under the provisions of both mortgages, will sell at public outcry, to the highest and best bidder, and in accordance with the terms and provisions of the said Mortgage Deeds of Trust, at Dublin, Laurens County, Georgia, before the County Courthouse door, between the legal hours of sale, on the first Tuesday in December next, to wit, on Tuesday, December 4, 1911, all the property described in the said two Mortgage Deeds of Trust and mortgaged or intended to be mortgaged thereby, to wit:

That tract of land containing sixty-three and sixty-five hundredths (63.65) acres, more or less, situated in said county of Laurens, State of Georgia, in the three hundred and forty-second (342) district G. M., and being a part of lot of land number one hundred and sixty-four (164), and described in a plat recorded with a deed from W. W. Robinson to the Dublin Cotton Mills, dated November 29, 1899, in the office of the Clerk of the Superior Court of Laurens County in Book 8 of Deeds, folios 54 and 55; also that tract lying in the First Land District of Laurens County, Georgia, known as the Robinson Mill Place or Lot, containing twelve (12) acres, more or less, less two (2) tracts of two (2) acres each sold off from said tract; also that tract containing two (2) acres, more or less, being in the First Land District of said Laurens County. The cotton-mill buildings and machinery of the said Georgia Cotton Mills being located on said property.

Also, all the entire textile machinery of every character located in the cotton-mill buildings on the above-described premises, comprising what is known as machinery for an eight thousand (8000) spindle mill, two hundred and sixty (260) looms, made by the Lowell Machine Shop, including the auxiliary machinery, mill fixtures, engines and boilers, belts, pulleys, shafting, tools, lathes, drills, electric-light engine and dynamo, elevator, fire apparatus and mill supplies.

All of the property of the Georgia Cotton Mills, mortgaged or intended to be mortgaged by said Mortgage Deeds of Trust, will be sold, and reference is made to the said two mortgage Deeds of Trust for a more particular and full description of the said property.

Said sale being made in order to collect the principal and interest of all of the bonds secured by said two mortgages, and all taxes, disbursements, incident to the preservation and protection of said property, expenses, fees, commissions and costs, as provided in said two mortgages.

Terms cash. Purchaser paying for title.

This August 28, 1911.

THE CITIZENS' AND SOUTHERN BANK,
By **M. E. Lane, President,**
Trustee,
Savannah, Georgia.

ADAMS & ADAMS,
Attorneys for Trustee,
Savannah, Ga.

THE FINE CEMENT PROPERTY

NEAR ROCKMART, GEORGIA

Of the **Georgia Portland Cement and Slate Co.**, is offered for sale at a **sacrifice price** of Forty-five Thousand Dollars, if the deal is closed in Thirty Days. It is an extraordinary property, containing 270 acres, and far superior to properties in Pennsylvania costing more than three times the money. The limestone and shale are both perfect, and thrown up without stripping, more than a hundred feet above the surface, adjoining the beautiful plant site. The supply is inexhaustible. Pure water, with natural reservoir, close at hand. Transportation facilities ideal—two railroads. The demand for cement in the South is several times greater than the supply. The industry is protected from the outside by a high freight rate. The profit is more than twice what the Pennsylvania plants can yield. The South is overflowing with prosperity. Address,

W. W. WADSWORTH, President, 75 Park Avenue, Atlanta, Ga.

NOTICE OF SALE OF PROPERTY OF THE German-American Company AT DRAPER, N. C.

NOTICE is hereby given that by virtue of a certain decree made and entered in the Circuit Court of the United States for the Western District of North Carolina, at Greensboro, in a certain cause therein pending, wherein The New York Trust Company as Trustee is complainant and the German-American Company is defendant, the undersigned Special Master Commissioner will expose for sale at public auction for cash on the premises of the German-American Company at Draper, Rockingham County, North Carolina, at 2 o'clock P. M. on Thursday, the 7th day of December, 1911, the following described property covered by and included in the deed of trust executed by the German-American Company to the New York Trust Company, Trustee, and referred to and described in the said decree, to wit:

First: That tract or parcel of land, lying and being in Leaksville Township in said Rockingham County, containing 57.84 acres, more or less (save and excepting what is owned as a right of way by the Danville & Western Railway Co.).

Second: That tract or parcel of land, lying and being in said Leaksville Township, containing 23.45 acres, more or less (save and excepting what is owned as a right of way by the Danville & Western Railway Co.).

Third: That tract or parcel of land, lying and being in said Leaksville Township adjoining "First" and "Second" above, the J. W. Bethell place (now owned by R. Frank Melane), land of the Rockingham Company and others containing 74.26 acres, more or less.

Fourth: All the cotton mill and other machinery and fixtures of every kind whatsoever now belonging to said German-American Company and situated on the land above described or hereafter acquired by said Company; and placed upon said premises.

There is also included under the lien of the said mortgage or deed of trust and will be sold at the said same time and place the following described mill, machinery and fixtures which had either been acquired at the time of the execution and delivery of the said mortgage or deed of trust and were included therein or were subsequently acquired in accordance with the provisions thereof and placed upon the said land hereinbefore described, to wit:

One 1-story brick mill building, all modern construction, 131x223 feet;
One 2-story engine and boiler house, 62x30 feet;
One 1-story brick picker and opening room, 50x100 feet;
Two 1-story brick warehouses, each 50x100 feet;
Five Lombard 150-horse-power boilers;
One 100 horse-power cross compound Harris Corliss engine.

The said mill building contains 22,032 ring spindles for the manufacture of knitting and yarn warps, and the necessary roving machinery, spoolers, twister spindles, cone winders, beam warpers, etc.

Also
5250 Johnson & Bassett heavy mule spindles;
12 sets Henderson woolen cards;
51-67", 104-75" and 68-82" four box Crompton & Knowles heavy blanket looms.

There are also the following tenement houses upon the land conveyed in the deed of trust:
2—2-room houses.
24—3-room houses.
57—4-room houses.
2—5-room houses.
14—6-room houses.
1—12-room boarding house.
6—store buildings.

All of the property above described as included in the deed of trust will be sold as one parcel.

No bid for less than Four Hundred and Thirty-five Thousand (\$435,000) Dollars will be received. No bid for any of the above described mortgaged property will be received unless the bidder shall place in the hands of the undersigned at the time of his bidding, as a part of his bid and a pledge to make the same good if accepted and the sale confirmed, the sum of One Thousand (\$1000) Dollars in cash, certified check or certificate of deposit, approved by the undersigned, which same shall be forfeited in case the bidder, if successful, shall fail to make good his bid and comply with the terms of the decree herein and by orders hereafter made as to future payments or otherwise, but said sum shall be applied on the purchase price in case of such compliance or returned in case the bid is not successful or the sale be not confirmed by the Court. The remainder of the purchase price shall be payable upon confirmation of said sale by the said Circuit Court and the tender to the purchaser of a proper deed for the said property. Holders of receiver's certificates or bonds secured by the said mortgage are entitled to the privilege of using the same in bidding for the said property in the manner and upon the terms specified in the decree, to which reference is made.

Notice is further given that at the same time and place the undersigned will offer for sale at public auction for cash pursuant to and under the authority of the said decree, the following described personal property of the said German-American Company not embraced in the said deed of trust, to wit:

All cotton on hand, cotton in process of manufacture, cotton goods, mill supplies, and all other tangible personal property of the said German-American Company not embraced in the deed of trust heretofore referred to and not theretofore disposed of. No bid for the said last named property of less than Ten Thousand (\$10,000) Dollars will be received, nor will the undersigned accept any bid for the said last named property unless the bidder shall place in his hands at the time of his bidding as a part of his bid and a pledge to make the sale good, if accepted, and the sale confirmed, the sum of Five Hundred (\$500) Dollars in cash, certified check or certificate of deposit to be held by the undersigned subject to the same terms as the deposit required in the case of the mortgaged property heretofore specified, the remainder of the purchase price for the said last named property to be payable when the said sale is confirmed and a proper deed or bill of sale for the property is tendered to the purchaser.

The said sale may be adjourned or postponed, if necessary, from the time and place hereinbefore mentioned, by public announcement, to be made at the time and place of sale, and both of said sales are made subject to the confirmation of the Circuit Court of the United States.

The right is reserved to the Court to reject any bid and to resell the property or any part thereof upon failure of the purchaser to comply with the terms of sale or with any order of the Court as to payment of the purchase price or any part thereof.

This the 25th day of October, 1911.

JAMES F. JORDAN,
Special Master, Commissioner,
Greensboro, N. C.

FACTORY SITES FARM LANDS Business Opportunities, Timber Lands, Realty Investments

We will take pleasure in submitting information pertaining to either of the above departments.

S. L. NUSBAUM & CO.
600 Citizens' Bank Bldg. Norfolk, Va.

POWER PLANT FOR SALE

Consisting of 100 K. W. Jeffrey Generator, 16"x16" McEwen Automatic Engine and 150 H. P. H. R. T. Boiler; 1 large motor-driven Mine Hoisting Engine, and 100-ton Howe Track Scale equipped with patent registering beam. Address
M. B. PARKER,
1912 Oak St., Chattanooga, Tenn.

WANTED Location for Silk Mill

Silk Mill.—An old-established firm wishes to start a branch mill in the Middle South where plenty of good labor and cheap power can be obtained. Would employ 300 or more. Give full particulars in reply. Address Silk Co., care Manufacturers Record.

BANKRUPT SALE VENEER PLANT

For Sale—One complete veneer plant with an up-to-date drying system. The plant, including lot and buildings, cost approximately \$40,000. The machinery alone cost about \$25,000. The plant is situated in the suburbs of Jackson, Alabama, on the Southern Railroad, one-fourth of a mile from the Tombigbee River. The capacity of the plant is about 75,000 feet of 1/4-inch veneers per day.

For further information apply to or write
G. G. WARREN, Trustee,
Jackson, Alabama.

TRUCK BASKETS

We have facilities for making more bottoms and tops than can use for truck baskets. We will be pleased to make contracts for surplus.

INDEPENDENT MANUFACTURING CO.,
CASTLE HAYNE, N. C.

Stone Quarry & Crushing Plant

FOR SALE
Location, Wake county, North Carolina. Steady demand for entire output at good prices. No other quarry in this section. Capacity, 300 tons crushed stone per day. Will sell cheap.
AMERICAN STONE CO.,
P. O. Box 552, Richmond, Va.

Our daily life is largely directed by habits.
Develop the habit of mentioning the MANUFACTURERS RECORD

when writing to advertisers. It only adds a few words, and is the easiest way to "get started" on a letter.

VALUABLE WEST VIRGINIA TIMBER FOR SALE

The undersigned, appointed Receiver by the U. S. Circuit Court at Clarksburg, in the suit of David Burns et al. vs. Jno. K. Thompson, Marshal and others, hereby offers for sale all the timber standing on the following tracts of land belonging to the estate of David Burns, and G. W. Burns, and of Burns Bros.:

1. About 2300 acres in Upshur county, West Virginia, lying on Right and Left forks of the Little Kanawha River in several contiguous parcels, known as the Burns lands. This land is well timbered and remains in virgin forest, except as to large poplar, which was removed twenty years ago.

2. About 1050 acres in Braxton county, West Virginia, lying on waters of Gulf Run and England Run, tributaries of Little Kanawha River. This body of land, also, made up of several contiguous parcels, is known as Burns lands. The larger poplar and oak have been removed for over twelve years, but much valuable timber still stands.

The titles to all of these lands are believed to be perfect.

Sealed bids will be received by me at Parkersburg, West Virginia, until noon, on the 15th day of December, 1911, for all the timber on one or both of the two tracts above mentioned, and the right is reserved to reject any and all bids.

Each bidder shall name a gross sum for all the timber per tract or tracts.

Terms: One-third cash, and balance in six and twelve months, with interest on notes with good security. Two years allowed from date of decree confirming sale for removal of timber.

WALTER E. FLEMING, Receiver,
Parkersburg, W. Va.
VAN WINKLE & AMBLER,
Counsel.

20-YEAR TIMBER LEASE

FOR SALE—At \$2.00 per thousand, Stumpage, Twenty-year Timber Lease on approximately 18,000 acres, estimated to cut 15 to 20 million feet Oak, 8 to 10 million feet Cypress, 6 to 8 million feet Pine, 50 to 60 million feet Black Gum, Red Gum, Bay, Ash, Maple and Hickory. Two to three hundred thousand Pine and Cypress cross-ties, besides large quantities of wood of the above varieties.

J. M. COX, Waycross, Ga.

SAND LIME BRICK PLANT FOR SALE

Only used six months. German make machinery. Must be moved. Will sell very cheap. Everything complete.

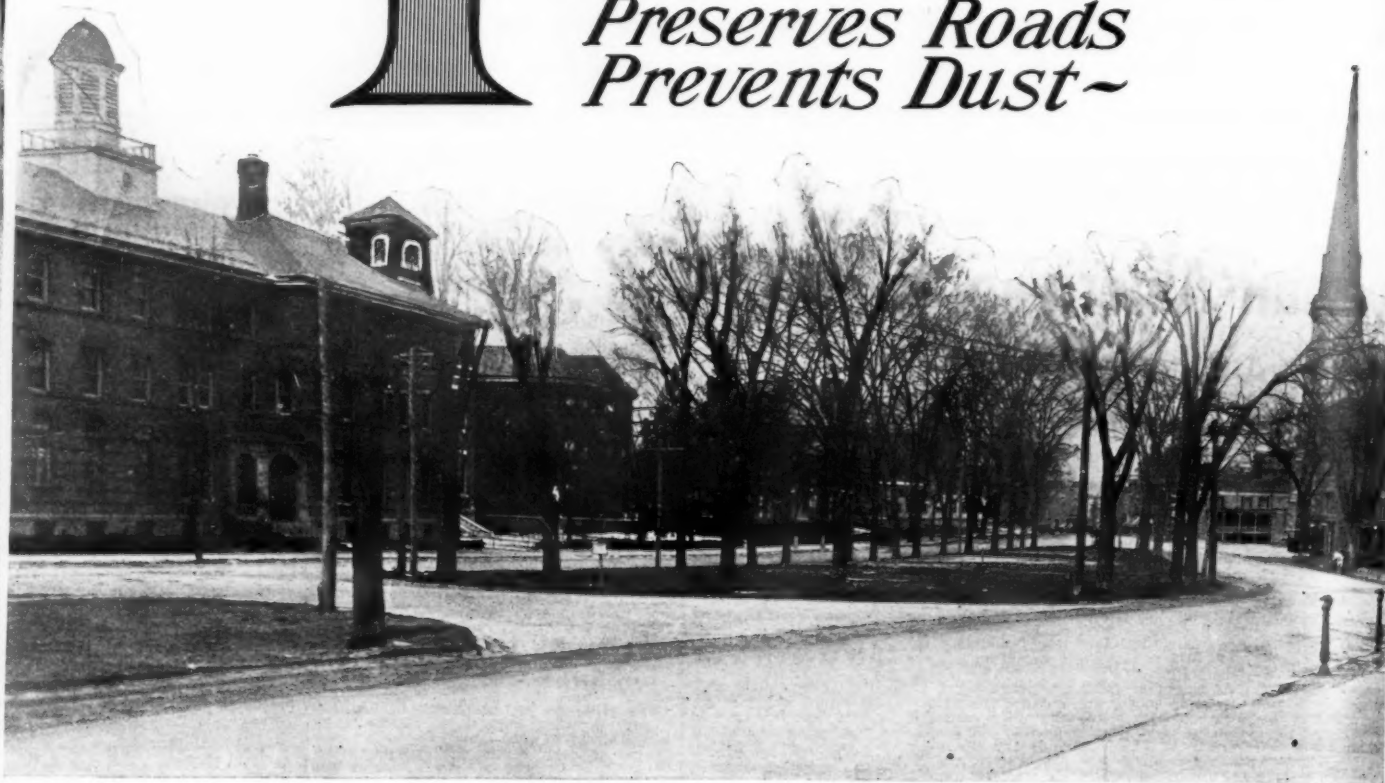
Apply **H. FREEDMAN,**
Sault Ste. Marie, Mich.

Complete Saw Mill Plant, Dry Kiln and Logging Equipment

FOR SALE
Mill has a daily capacity of 25,000 feet. Logging outfit consists of Locomotive, three and one-half miles of tramroad and six log trucks. Eighteen to twenty million feet of choice Pine timber, well blocked. Mill located about 35 miles south of Savannah, on the Seaboard Air Line Railway. Fifteen to twenty million feet additional timber can be had in easy reach of this plant. For full particulars address
ALBERT FENDIG & CO., Brunswick, Ga.

Tarvia

*Preserves Roads
Prevents Dust~*



Tarviated roads in Danbury, Conn.

Danbury's Experience with Tarvia

DANBURY has made use of Tarvia as a binder and protective covering for macadam roads for three years. It has been found that Tarviated roads will stand traffic under which plain macadam will not endure. They are undamaged by automobile travel which would destroy ordinary macadam in a few months.

Mr. William T. Woodin, Superintendent of the Public Works Department of Danbury reported as follows, in response to an inquiry from the corresponding officer in a neighboring town:

"After using Tarvia three years we do not hesitate to recommend its use for street work. There may be others on the market just as good but we have not found them. The cost is about the same as with water bound macadam, the finished street presenting equally as pleasing

appearance as an asphalt finish, with the objectionable feature of slipperiness removed. We shall continue its use the coming season. Dust and repairs are reduced to a minimum."

Tarvia is a product of the scientific combination of tars, especially prepared for use as a road preservative and dust preventive. It fills the voids among the stone, forming a tough, plastic matrix, holding the stones to their work, preventing internal movement and preventing pulverization as compared with the brittle surface of plain macadam.

There are three grades of Tarvia—

Tarvia X—a very dense, pitchy product—for road building; Tarvia A for thorough surface work; and Tarvia B for dust suppression and road preservation.

Booklets on request. Address our nearest office.

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Bargains in Machinery and Supplies.

DYNAMOS and MOTORS

Direct Connected Units

Belted Generators

Alternating Current Motors

Direct Current Motors

300 OF THEM

Thoroughly overhauled and fully guaranteed.

In stock for immediate delivery.

We Buy, Sell, Repair, Rent or Exchange.

E. LEVENE & CO.

124 N. 3rd. St., Philadelphia

Gas Power and Electrical Equipment FOR SALE

A 105-horse-power "Otto" Gas Producer Engine; engine, dynamo, producer, switchboard and electrical equipment, complete. Erected one year ago. No expense was spared to make this a model installation. Particulars and description can be found on page 120 of the March number of "Metal Industry." Can be inspected upon application.

THOMAS A. PAINTER,

28 Eighth Ave., New York.

AIR COMPRESSOR

FOR SALE.

One Sullivan Straight-Line Steam-Driven Air Compressor, cap. 174 cu. ft. free air per min., complete, with speed and pressure governor, in A-1 condition, at a bargain.

BYRD BROTHERS, Salisbury, N. C.

100 H. P. Engine

FOR SALE

One McEwen Center-Crank Engine, 18x14, normal 100 H. P. This engine is in the very best of condition and is for immediate delivery. Will sell at less than real value to quick buyer.

ELECTRIC LIGHTING PLANT, Johnston, S. C.

100 K. W.

Direct Connected Set

Consisting of a 100 K. W. 125 v. 8-pole Westinghouse Generator, direct connected to a 14x20x18 tandem Compound Erie Ball Engine.

\$1500.00 f. o. b. Cars

500 Dynamos and Motors always in stock.

GEORGE SACHSENMAIER CO.

143-45 No. 3rd St., PHILADELPHIA, PA.

If you need a Dynamo and Motor, get our price.

LIGHTING DYNAMOS

40-light General Electric, speed 1350.
75-light Allis-Chalmers, speed 1300.
100-light Triumph, speed 1400.
150-light Westinghouse, speed 1200.
200-light Westinghouse, speed 875.
250-light Westinghouse, speed 825.
300-light General Electric, speed 900.
450-light Westinghouse, speed 600.
Condition Guaranteed.

110-volt. 250-volt. 500-volt.

A. C. and D. C. Motors and Generators in stock. Send for Bargain List.

MILLER-OWEN ELECTRIC CO.,

217-219 First Ave., Pittsburgh, Pa.

KEEP THE FACTORY RUNNING
MOTORS TO RENT
ONE H. P. AND LARGER
GREGORY ELECTRIC CO.

16th and Lincoln Sts., CHICAGO.

We have the largest stock of second-hand electrical machinery in the world. Send for our "monthly Bargain sheet," showing complete stock with net prices. We can save you fully one-third. All machines completely overhauled, tested and shipped practically "as good as new."

FOR SALE CHEAP

Four 100 H. P. Portable Return Flue Boilers. 13"x15" Erie City Engine. 12"x16" Birmingham Engine. 18"x23" H. S. & G. Engine. 18" Hand Knife Grinder. 18" Outside Molder.

Tampa Machinery Exchange, Tampa, Fla.

DYNAMOS AND MOTORS

I buy, sell, rent and exchange. The best and the cheapest. Let me know what you have for sale and what you want to buy.

THOMAS YEARSLEY

211 N. 3rd Street Philadelphia, Pa.

FOR SALE

One 26"x14" Lathe. One 20"x10" Lathe. One 18"x8" Lathe. One 14"x6" Lathe. One 30 H. P. Traction Engine. One No. 2 B. Koehring Cement Mixer. One No. 1 B. Koehring Cement Mixer. One No. 1 Smith Mixer, with gasoline engine. One No. 1 Smith Mixer, with boiler and engine. Two 125 H. P. Hor. Tub. Boilers. Two 110 H. P. Hor. Tub. Boilers. One 90 H. P. Portable Boiler on skids. Three Berlin Planers and Matchers, 4"x9". One Mississippi Planer and Matcher, 4"x14".

CHAS. T. LEHMAN, Birmingham, Ala.

Do You Need MACHINE TOOLS?

We have a large and well-selected stock in our warehouse at prices that will materially reduce your equipment bills. Let us give you details of some of the following tools.

LATHES

1 60"x16" "Fifield," internally geared face-plate.
1 48"x12" "Fifield," internally geared face-plate.
2 42"x32" "Draper," one has taper attachment.
1 40"x18" "Fifield."
1 40"x16" "Fifield," internally geared face-plate.
1 38"x18" "Fifield," internally geared face-plate.
1 33"x16" "Fitchburg."
1 32"x32" "Fifield."
1 30"x14" "Fifield."
1 26"x10" "Perkins."
1 20"x10" "Perkins."
1 25"x10" "Fifield."
1 16"x6" "LeBlonde."
3 14"x6" "LeBlonde."

PLANERS

1 52"x32"x23" 9" "Betts," one head.
1 42"x36"x12" "American," open side.
1 40"x40"x10" "Powell," one head.
3 20"x20"x6" "Sellers," one head.

RADIAL DRILLS

1 72" "Bickford," plain.
1 54" "Bickford," universal.
1 54" "Bickford," plain.

BORING MILLS

1 60", one head, vertical.
1 37" "Bullard," two heads, vertical.
1 54" "Newton," horizontal.

PIPE MACHINES

1 10" "Curtis & Curtis."
1 6" "Cox & Sons."
1 No. 2 "Eaton, Cole & Burnham," 1 to 4".
1 No. 2 "Bignall & Keeler."

PRESSES

2 No. 2 1/2 pattern "Phila. Machine Co."
1 No. 2 "Bliss."
1 P-1 "Ferracute."

HAMMERS

1 1500-lb. steam "McDougall & Potter."
1 800-lb. steam drop "Bement-Miles."
1 500-lb. "Champion Beaudry."
1 400-lb. "Champion Beaudry."
1 150-lb. belt-power "Scranton."

GEAR CUTTER

1 72" "Gould & Eberhardt."

Our large, well-planned and lighted warehouse makes critical examination of any tool easy and affords the best facilities for quick and safe handling of heavy pieces.

L. F. SEYFERT'S SONS, Inc.

437 - 439 - 441 N. 3d St., Philadelphia

Wonderful Bargains IN MACHINERY

1 14"x26" Girder Frame Corliss Engine.
1 14"x42" Girder Frame Corliss Engine.
3 66"x16" Horizontal Tubular Boilers, 125 lbs.
5 72"x20" Horizontal Tubular Boilers, 100 lbs.
3 50 H. P. Gasoline Engines.
1 18x28x10 Worthington Duplex Steam Pump.
2 14x32x12 Canton-Hughes Duplex Steam Pumps.
1 80" Sturtevant Heating Fan with 2500 ft. 1" Pipe Coils.
200 High-grade Vault Doors.
200 1000 to 8000-gallon capacity Tanks.
Write for our Bargain List No. 239.

CHICAGO HOUSE WRECKING CO.
35th and Iron Streets, CHICAGO, ILL.

In revising our manufacturing equipment, we find the following first-class

Used Machine Tools

which we offer at attractive prices

ENGINE LATHES

14 in. x 6 ft. Flather, Q. C. G.
16 in. x 6 ft. Hendey, Q. C. G.
16 in. x 6 ft. Pratt & Whitney, Q. C. G.
16 in. x 8 ft. Reed.
18 in. x 6 ft. Lodge & Shipley, Q. C. G.
18 in. x 8 ft. Lodge & Shipley, Q. C. G.
18 in. x 10 ft. Lodge & Shipley, Q. C. G.
20 in. x 8 ft. Lodge & Shipley, Q. C. G.
20 in. x 10 ft. Lodge & Shipley, Q. C. G.
22 in. x 14 ft. Lodge & Shipley, Q. C. G.
24 in. x 8 ft. Lodge & Shipley, Q. C. G.
24 in. x 10 ft. Lodge & Shipley, Q. C. G.
26 in. x 10 ft. Lodge & Shipley, Q. C. G.
36 in. x 14 ft. Lodge & Shipley, Q. C. G.
36 in. x 14 ft. New Haven.

SPECIAL LATHES

24 in. x 7 ft. Lodge & Shipley Chucking Lathe.
Fitchburg Lo-swing Lathe.
No. 3 Lodge & Shipley Rapid Reduction Lathe.

PLANERS

36 in. x 36 in. x 10 ft. Sellers.

METAL SAWS

No. 3 Nutter-Barnes Cold Saw.
Franklin Cold Saw, 3 1/2 in. capacity.
Globe Power Hack Saw, 8 in. capacity.
Universal Power Hack Saw, 6 in. capacity.

MISCELLANEOUS MACHINES

Whitton Centering Machine.
Schuster Riveting Machine.
Mumford 12 in. x 40 in. Molding Machine.
Write for complete description with prices of machines in which you are interested.

THE LODGE & SHIPLEY MACHINE TOOL CO.
CINCINNATI, OHIO

BARGAINS IN STOCK

Immediate Delivery, Rebuilt and Guaranteed

ENGINES

Two (2) 18"x34"x48" Tandem Compound Greene, 150 lbs. steam.
28"x48" Naylor Corliss.
25"x48" Wetherill Corliss, 150 lbs. steam, extra heavy.
22"x48" Naylor Corliss.
20"x42" Frick Corliss, "Eclipse" pattern.
16"x36" Greene Corliss.
One (1) each 14"x16", 16 1/2"x18" and 14"x28" Buckeye.
15"x16" New York Safety Center Crank.
One (1) 10"x30" Brown.
Two (2) 9"x35"x9" Westinghouse Automatic Compound.
Large assortment of Slide-Valve Engines, all sizes.

BOILERS

One (1) 300 H. P. Babcock & Wilcox W. T., 100 lbs. steam.
One (1) 250 H. P. Sterling, NEW.
Two (2) 200 H. P. Helme W. T.
Four (4) 72"x18" H. R. T., 125 lbs. steam.
One (1) 66"x16" H. R. T., 100 lbs. steam.
One (1) 250 H. P. Berry, 100 lbs. steam.
Large assortment of Locomotive and Vertical Boilers.

AIR COMPRESSORS

18"x18 1/2"x24" Ingersoll Sergeant.
14"x9"x8 1/2"x12" Ingersoll Two-Stage, "Imperial" type.
14 1/2"x9 1/2"x8 1/2" Ingersoll Two-Stage, belt driven.
And many others.

HEATERS

1000 H. P. Berryman Glenner.
One (1) each 800 H. P. Wheeler; 500 H. P., 400 H. P. and 300 H. P. Berryman.
300 H. P. Wetherill.

PUMPS

Two (2) 17"-28"x14"x24" Snow Duplex Pressure steel water ends.
One (1) 18"x26"x18" Snow Duplex.
Two (2) 16"x10 1/2"x10" Worthington Duplex Pumps.
One (1) 8" Morris Centrifugal Pump.
10"x12" Duplex Double-Acting Smith-Vaile Power.
8"x6" Davis Plunger.
500 H. P. Conover Jet Condenser, complete.
Vacuum and Condensing Pumps, all sizes.
About fifty other Pumps of smaller sizes.

MACHINE TOOLS

Large stock of Machine Tools. Note my adv. in last week's issue. Send for Special List. Correspondence solicited.

HERMAN L. WINTERER,

908-910 Beach St., Philadelphia, Pa.

SECOND-HAND Machine Tools

LATHES.

10x4 Lodge & Davis, chucks fitted.
11x4 Mann, R. & F.
14x6 Davis, plain rest.
14x8 Le Blond, plain rest, chuck, P. C. F.
14x6 Reed, compound rest, P. C. F.
14x3 Fay & Scott, plain rest, P. C. F.
14x8 Lodge & Shipley, patent head chuck.
20x3 McMahon, compound rest, chuck.
20x3 Fay & Scott, compound rest, P. C. F.
21x14 Reed, high speed.
27x12 Pratt & Whitney, C. R., P. C. F.
28x10 Putnam, C. R., P. C. F.
28x12 Pond, C. R., P. C. F.
28x17 Bement-Miles, C. R., triple geared.
30x15 Reed, compound rest, P. C. F.
30x18 Newark, triple geared, C. R., P. C. F.
30x25 Fitchburg, T. G., C. R., P. C. F.
30x35 Bement, compound rest, T. G.
31x14 Powell, compound rest, P. C. F.
31x14 Niles, compound rest, P. C. F.
36x12 Fitchburg, compound rest, P. C. F.
36x20 Fitchburg, C. R.

SCREW MACHINES.

2x24 Jones & Lamson, flat turret.
20x5 Bardner & Oliver, friction head.
No. 2 1/2" Warner & Swaney, wire feed.
No. 2 1/2" Garvin, wire feed, friction head.
No. 1 Garvin, wire feed.
3" National Acme, automatic.
No. 6 Brown & Sharpe, friction head.
1" Smurr & Kamen, wire feed.
1/2", 3/4", 1" and 2 1/2" Pratt & Whitney automatics.
No. 2 1/2" Pratt & Whitney, wire feed.
No. 2 1/2" Pratt & Whitney, wire feed.
No. 1 7/16" Pratt & Whitney, wire feed.

MILLERS.

No. 2 Cincinnati, plain.
No. 4 Cincinnati, plain.
No. 2 Le Blond, plain, back gears.
No. 2 Pratt & Whitney, Lincoln pattern.
No. 24 Brainerd, plain, back gears.

No. 1 Cincinnati, universal.
No. 2 Brown & Sharpe, plain.
No. 3 Cincinnati, plain.
No. 12 Brown & Sharpe, manufacturers.

DRILLS.

20" Prentice Bros., power feed.
15" Slate, sensitive.
4" Bickford, plain radial.
No. 25 Foote-Burk, high speed.
1 1/2" Baker Bros.
16-spindle Gardam, adjustable.
40" New Haven, sliding head, back gears.
30" Gang, plain radial.
5" Bausch, plain radial.
7-spindle Slate, bedstead.

SHAPERS.

12" Gould & Eberhardt, crank.
15" and 20" Hendey, friction.
13" Lodge & Davis, crank.
28" Cincinnati, geared.

MISCELLANEOUS.

Boring Mill, 37" Bullard, 2 heads.
Grinder, Sellers, universal tool.
Planer, 36x36x8 Betts, 1 head.
Planer, 28x28x8 Pond, 2 heads.
Planer, 36x36x12 Betts, 4 heads.
Planer, 48x48x8 Farrell, 1 head.
Planer, 48x48x15 Pond, 3 heads.
Boring Mill, 10" Pond.
Grinder, Walker, electric surface.
Grinder, No. 2 1/2" Bath, universal.
Gas Engine, 3 H. P. Fairbanks.
Hammer, 50 lbs., Bradley, compact.
Hammer, 1000 lbs., Pratt & Whitney, drop.
Gear Cutter, 16x4 Gould & Eberhardt.
Grinder, 12x42 Landis, universal.
Pipe Machine, No. 6 1/2", 6", Merrill.
Slotter, 16", Bement, motor driven.
Keyseater, No. 2 Davis.
Brake, 8" Niagara.
Pipe Machine, 3" Jarecki.
Gas Furnace, No. 17 American.

Prentiss Tool & Supply Company

149 Broadway, New York

FOR SALE—CHEAP Gas Producer Plant

1-115 H. P. 4-cylinder Bruce-Macbeth Producer Gas Engine. 1-125 H. P. Wile Producer. Complete in detail. Used a short time only. Absolutely good as new. Price for the outfit \$2000 f. o. b. cars Chicago.

PFANNMUELLER ENGINEERING CO.

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CHEAP ENGINE AND BOILER

1 120 H. P. Tallbott Slide-Valve Engine.
1 60 H. P. Return Tubular Boiler.
Good order. Taken out and replaced by electric motors. Write for specifications and prices.

SOUTHERN COTTON OIL CO.,
Charlotte, N. C.

FIVE SPECIALS

10x30 Harris Corliss Engine... \$ 275.00
12x34 Brown 400.00
16x36 Allis Corliss..... 750.00
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12x22x42 Hughes and Phillips
Corliss..... 1000.00

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Send for "Bargain List" of Engines,
Boilers, Generators, etc.

Engines, Boilers, Generators, etc.

1 22 and 40-hp Corliss Cross Compound.
2 24x38 Corliss Engines.
1 22 and 36-60 Tandem Corliss.
2 Phoenix Tandem 12 and 20x16 Engines.
1 Allis Corliss Tandem, 22 and 24x16 Engine.
Engines direct connected to generators.
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Two Sets (two wheels to each set) Hercules Bronze Water-Wheels, with wheel cases; wheels 24 inches diameter, on horizontal shafts; made by Holyoke Machine Company; capacity, approximately 600 horsepower under 50 feet head; in good condition, having been used less than five years. Taken out on account of installing higher head wheels.
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1 16x42 Brown.
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Engines—Throttling.—18x24 Atlas, 14x18 Sinker-Davis, 14x14 Lewis Vertical, 12x16 Reed, 12x14 Brownell, 10x16 Bass, 10x12 Atlas, 9x14 Lane & Bodley, 8x10 Erie, 6x8 Industrial.

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1 13x22" Baldwin 6-driver S. G. S. T. Locomotive.

3 10-ton 3-wheel New York Road Rollers.
1 5-ton Tandem Iroquois Asphalt Roller.
1 2 1/2-ton Tandem Iroquois Asphalt Roller.

1 26-ton Little Giant Special Traction Steam Shovel.
1 26-ton Little Giant Standard Traction Steam Shovel.

5 Lambert D. D., with boom swings, Electric Hoists, 30, 40 and 60 H. P., 220 volts.
30 Hoisting Engines, Lambert, Mundy, Lidgerwood, skeleton or mounted, with and without boom swings, 6 to 50 H. P.

2000 ft. 9" Spiral Riveted Galvanized Pipe (flanged).
8 Steel Guy Derricks, 70' masts.

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One 3x8 Erieco Self-Oiling Automatic Engine, direct connected to Akron Elect. 30 K. W. 125 V. D. C. Generator.

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Four Steam Engines, various sizes.

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A No. 12 Becker Brainard Universal

Milling Machine, in good condition.

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Practically new; only 60 days' use; 60 inches wide by 55 feet long; 3-inch steam space; pan good for 100-pound pressure; has drag chain, complete, to stir and drag the material over the pan. This pan is suitable for drying clays, shales, brick and minerals. Will sell cheap.

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3 72"x18" Horizontal Return Tubular, 120 H. P. each, 120 lbs. steam.

3 60"x16" Horizontal Return Tubular, 80 H. P. each, 125 lbs. steam.

1 54"x16" Horizontal Return Tubular, 70 H. P. each, 100 lbs. steam.

1 150 H. P. Manning Vertical Tubular, 125 lbs. steam.

1 60 H. P. Erie City Economic, 100 lbs. steam.

1 50 H. P. Locomotive, 100 lbs. steam.

Large stock of Return Tubular and Vertical types, all sizes.

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30"x48" Watts-Campbell Corliss.
28"x48" Reynolds, double. 26"x80" Corliss.
24"x48" Cooper Tandem Compound.

22"x42" Greene. 14"x36" Allis.

20"x42" Buckeye. 14"x30" Russell.

20"x42" Greene. 12"x22"x42" Greene.

16"x42" Allis. 12"x30" Rollins.

Large stock of smaller sizes, also Automatic and Plain Slide Valve, Vertical and Horizontal.

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16"x26"x27"-17"x30" Laidlow-Dunn-Gordon Compound, two-stage, 1700 cu. ft.

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50 K. W. 125-volt D. C. Westinghouse 6-pole Generator, direct connected to 10"-18"x10" Westinghouse Compound Engine, 35 H. P. M.

150-ampere 115-volt American 4-pole Generator, direct connected to 9"x10" American Horizontal Engine.

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3 100 K. W. 550-volt D. C. General Electric Generators, 650 R. P. M.

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11"x14" Flory, D. C., S. D.

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7"x10" Lidgerwood, D. C., D. D., 40"x7" boiler.

7"x8" Copeland & Bacon, D. C., S. D.

6 1/4"x10" Davis, S. C., S. D.

6 1/4"x10" Mundy, D. C., D. D.

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1 13"x22"x13" Westinghouse Compound, 125 H. P.

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36"x36"x8" Betts. 26"x26"x7" Wheeler.

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36"x16" Triple Geared.

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Two 17"x8" Greaves & Klausman.

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No. 3 Garvin Plain Miller, with dividing heads.

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No. 2 Cincinnati Universal Milling Machine, complete, with vertical attachment, like new.

About 20 Lincoln Type Milling Machines.

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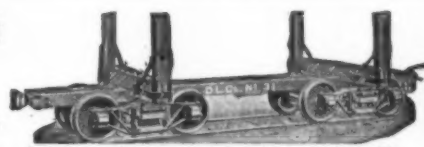
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200 tons with angle bars. Uniform section
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RAILS NEW, RELAYING AND OLD RAILWAY EQUIPMENT BRIDGES

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2500 Tons of 56-Pound Relay Rail

FOR SALE-About twenty-five hun-
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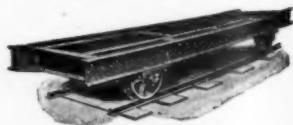
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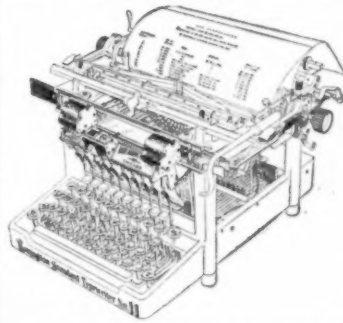
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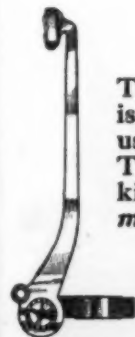
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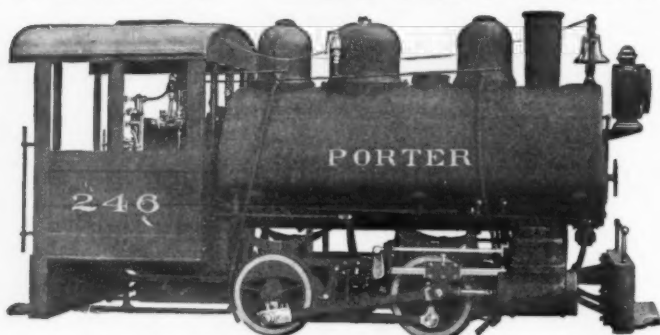
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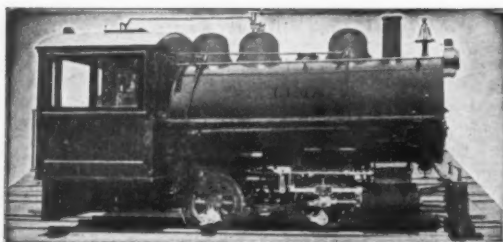
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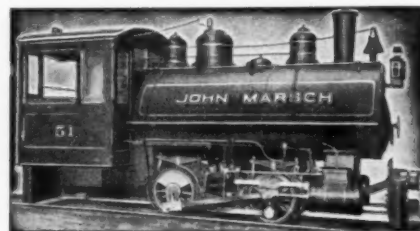
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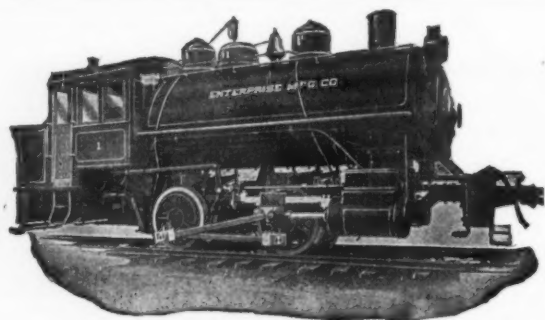
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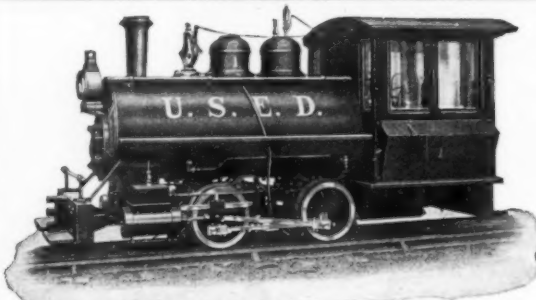
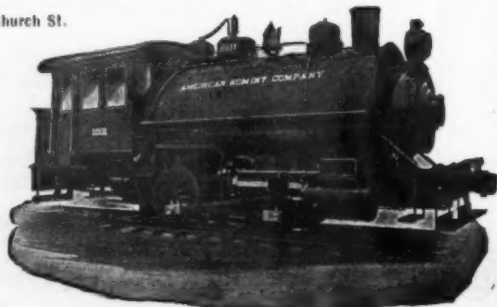
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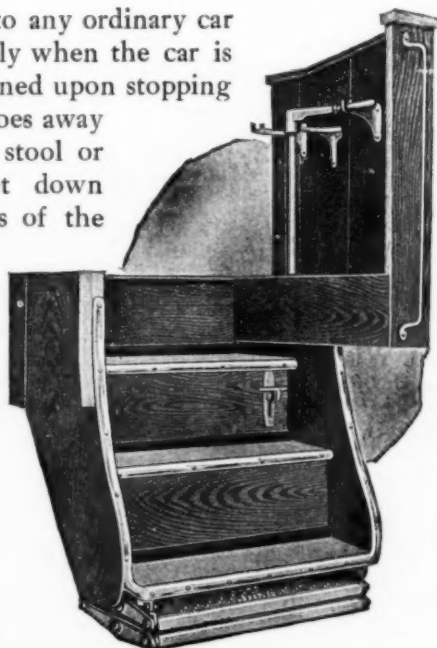
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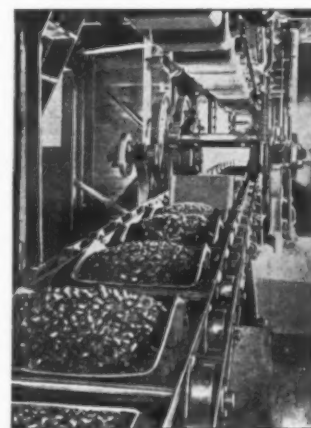
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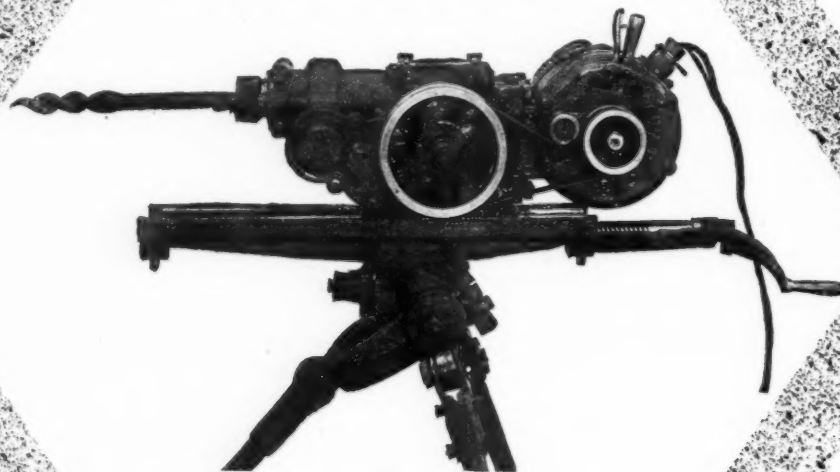
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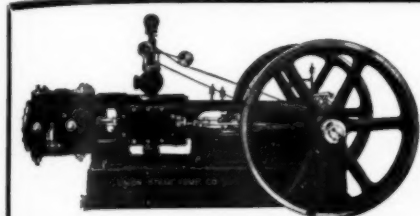
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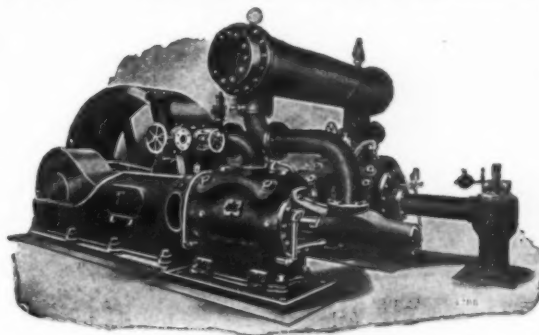
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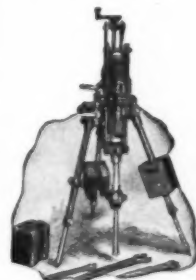
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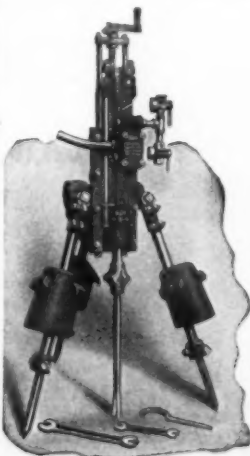


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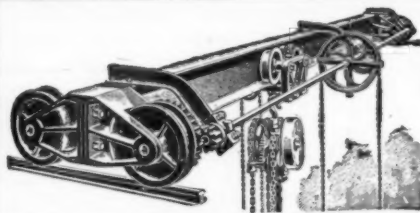
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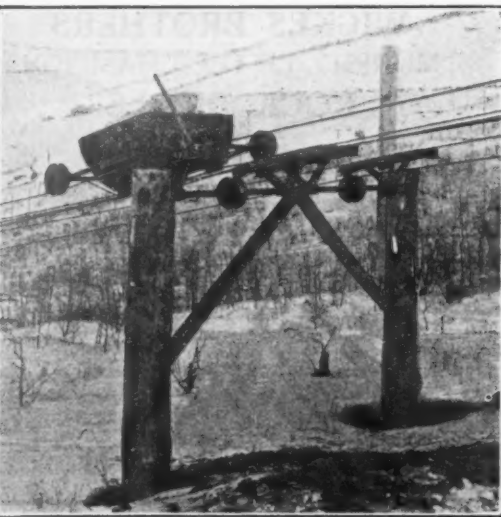
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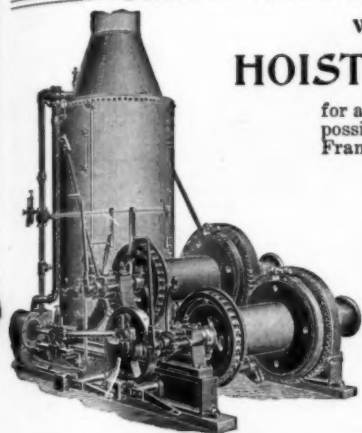
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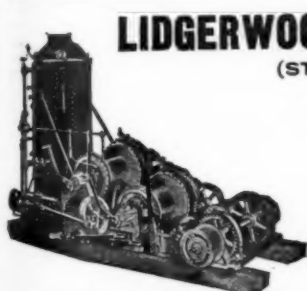
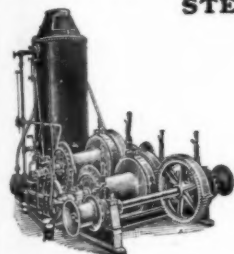
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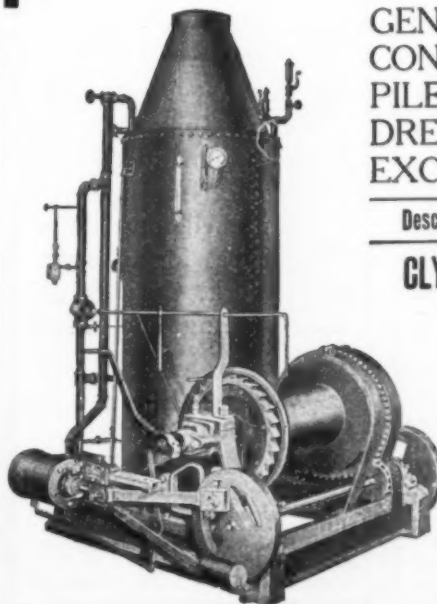
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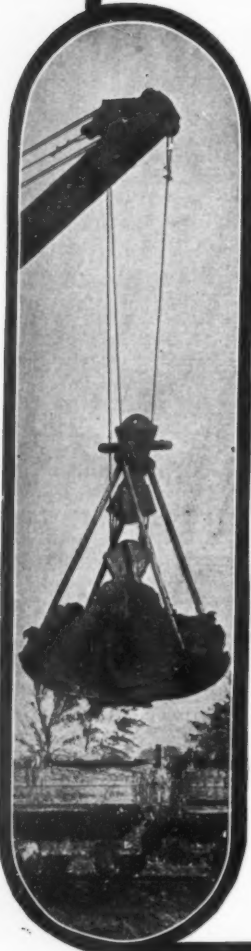
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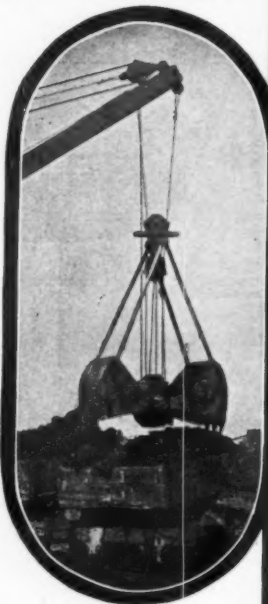
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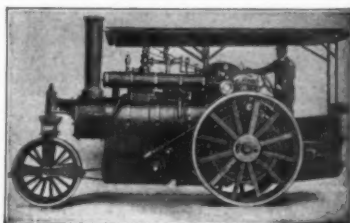
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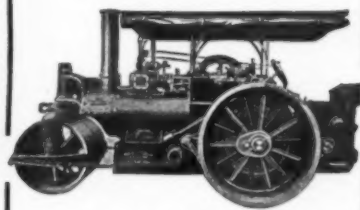
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You may not want to use a dump box as a dump bucket. But if you are looking for a box that is strong and easy to handle, here's the best evidence in the world about the TROY. And the price is right.

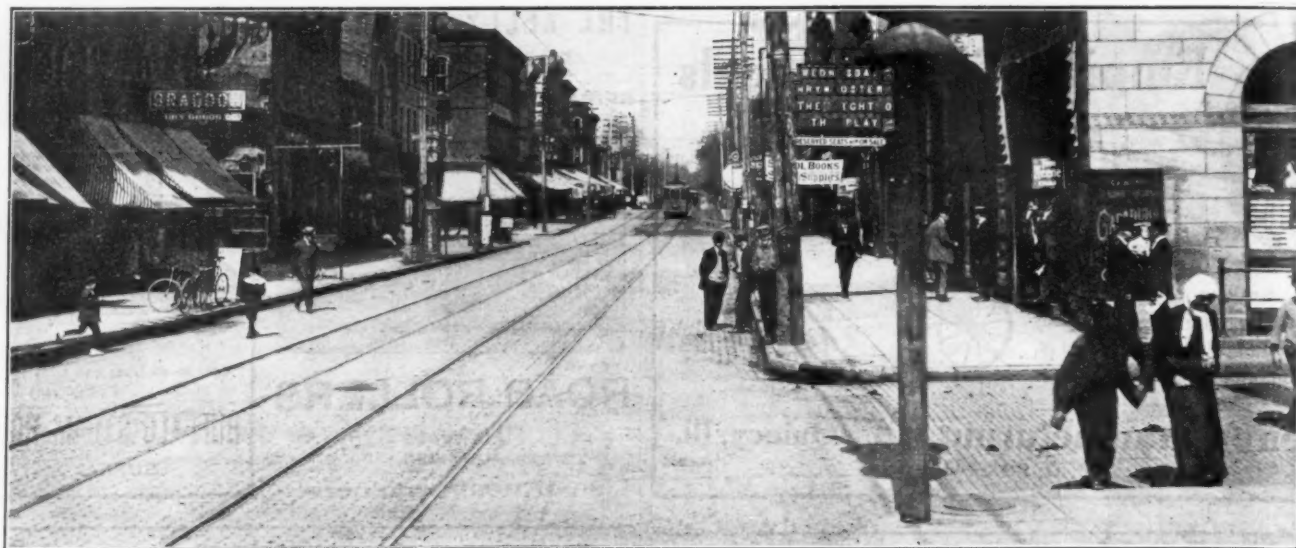
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Chillicothe Street, Portsmouth, Ohio, Filled with Barrett's Paving Pitch in 1895.

Why the Monolithic Theory is Unsound

Although engineering experience favors the use of paving pitch as a filler for brick pavements, some engineers believe in cement, acting on the following theory:

"That the cement makes a monolith of the pavement, thus preserving evenness of contour." A monolith they argue is an ideal pavement, therefore use cement filler.

There are other considerations, however, which become evident after a cement-filled pavement has been laid a few years. An earth foundation settles in course of time, and a cement-filled pavement fails to sink with it. In consequence, an air space is left between the brick and its foundation which can be detected by the change in the noise made as vehicles pass over it. These air spaces or arches grow larger, and finally the pavement collapses, making a long, dangerous crack, running for yards across the pavement, which is very difficult to repair satisfactorily.

Bricks expand in hot weather and contract in cold.

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A brick pavement ought not to be a monolith at all. It should have power to expand and contract. The right way to get such a pavement is to use Barrett's Paving Pitch as a filler for all the joints. This makes every joint an expansion joint. The protection against water is perfect. The pavement will be quiet. It can be easily repaired after excavations without loss of the brick; the street can be immediately used after the brick is laid. The softness of the filler gives a grooved footing, and the method of application is so easy that there is small danger of unsatisfactory work.

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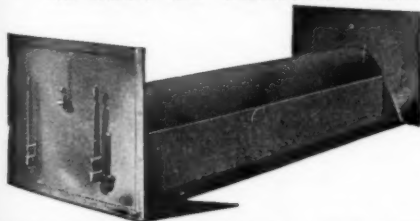


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Made in solid, continuous lengths as may be specified.

No assembling of short sections on the ground.

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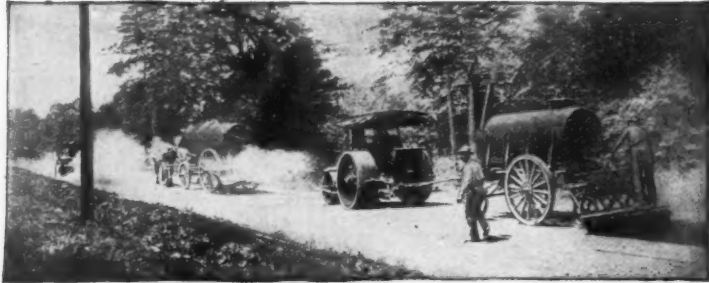
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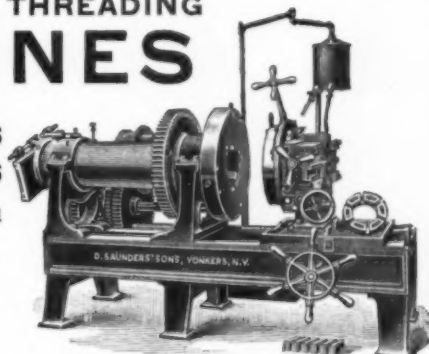
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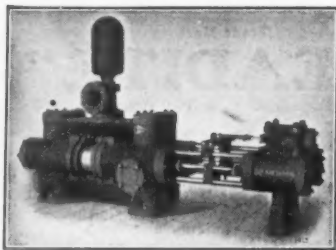
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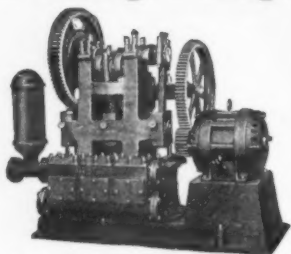




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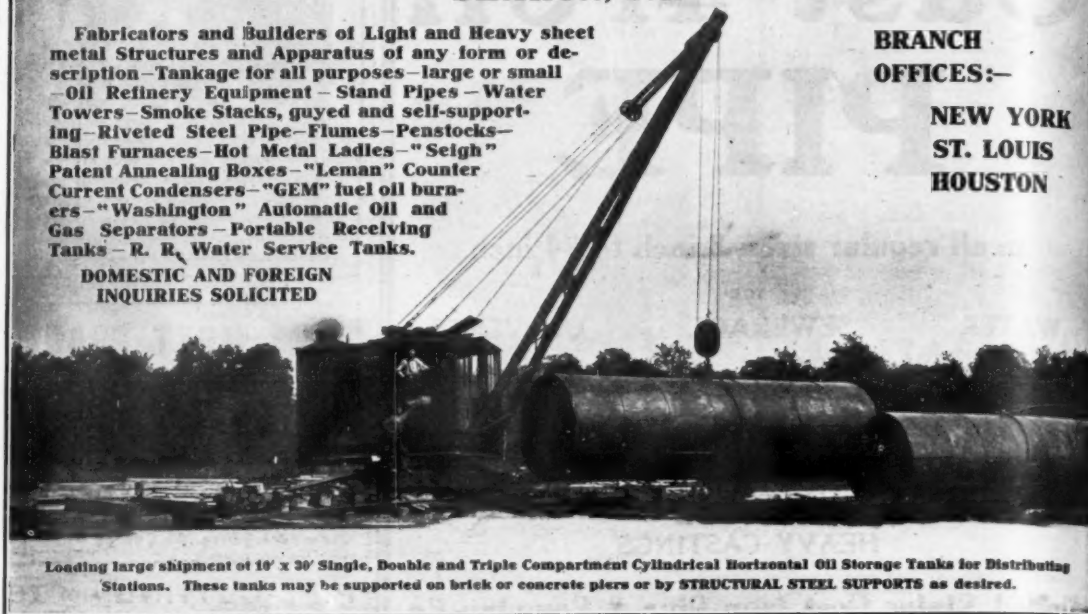
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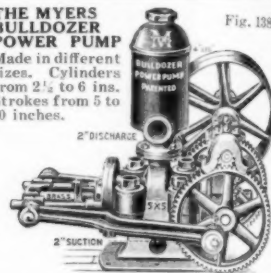
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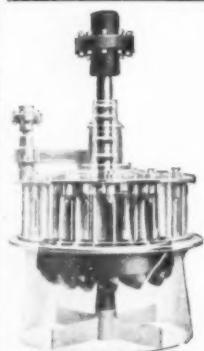
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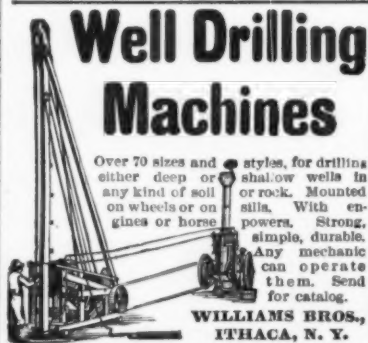
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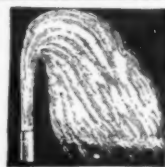


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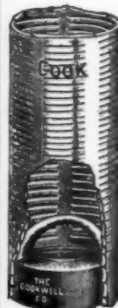
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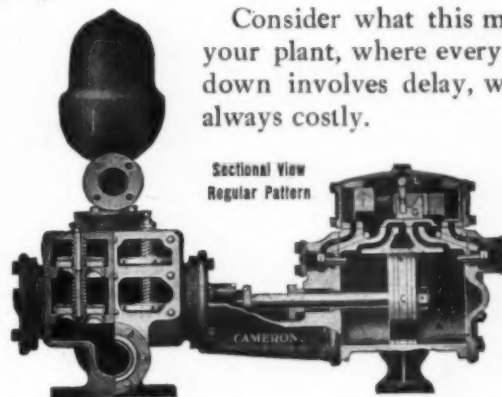
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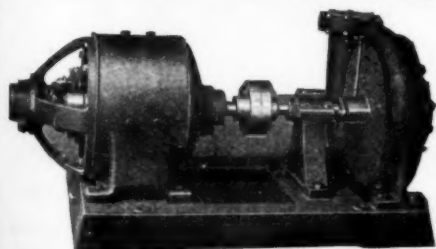
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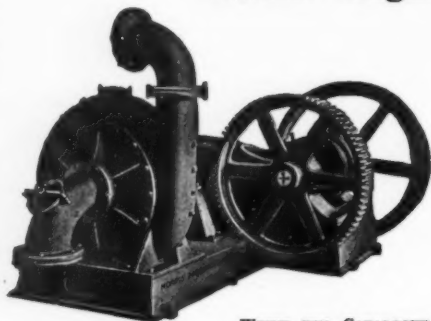
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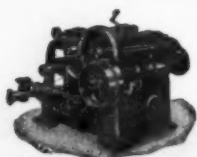
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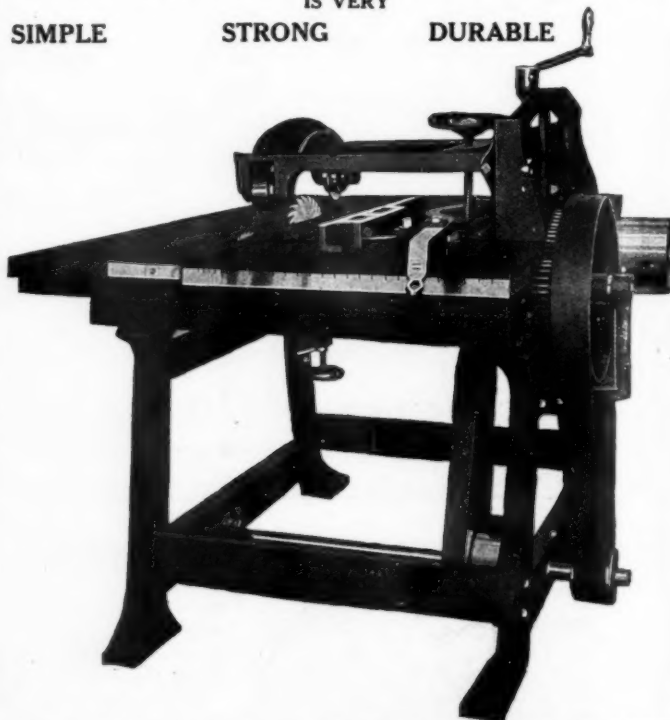
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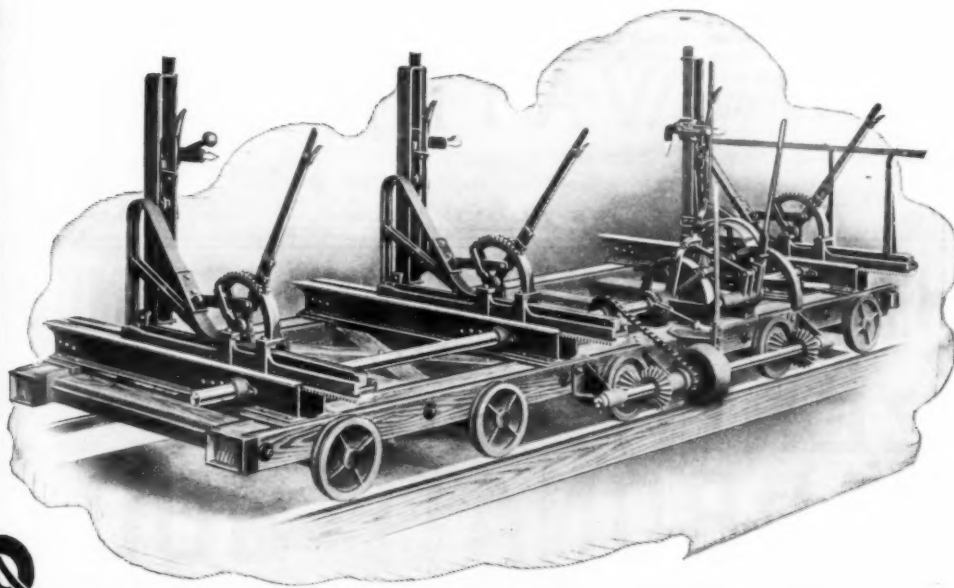
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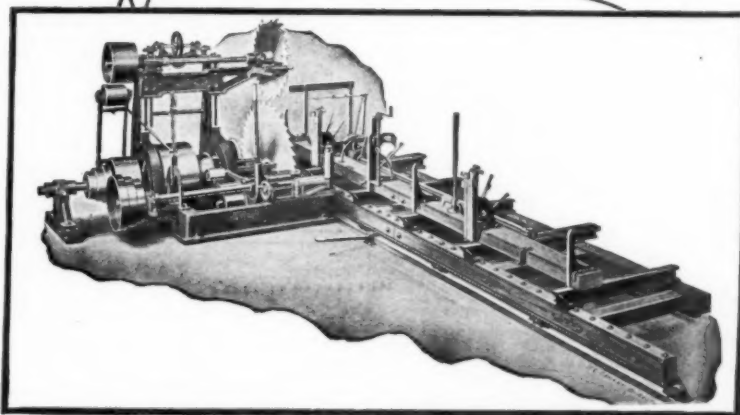
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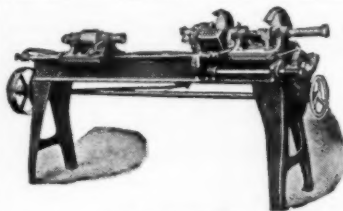
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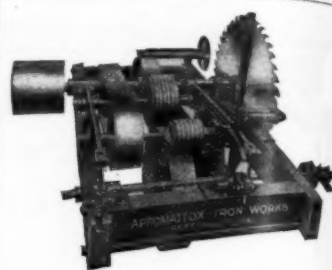


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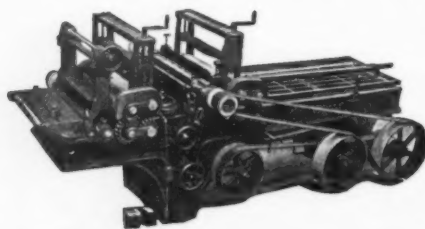
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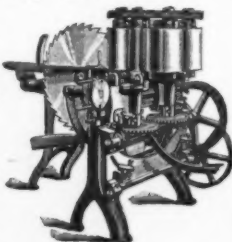
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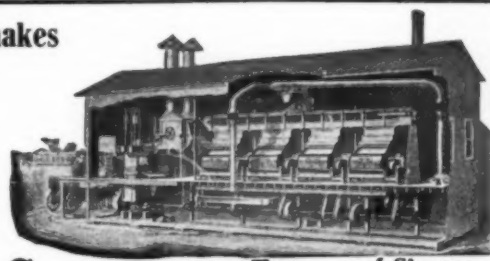
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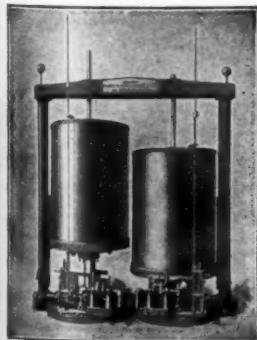
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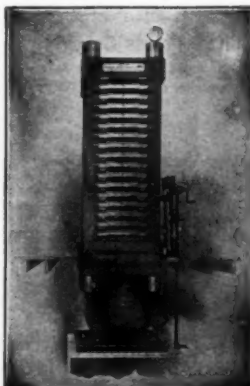


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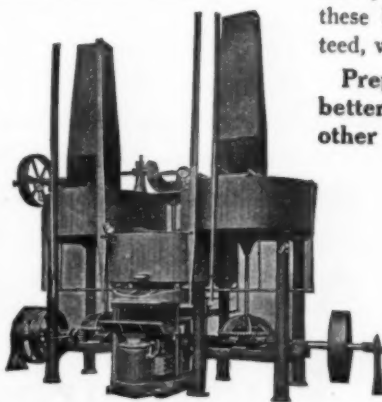
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Southern Ry. System

The census figures for the decade 1900-1910 show that the Southeast is making greater development than any part of the country. The large returns from farm crops and the prosperity of the factories have wonderfully increased the purchasing capacity of every Southeastern community.

The people of the Southeast furnish a splendid market for all kinds of factory products, many lines of which are not now made in the South.

This all means that the manufacturers who first establish themselves in this fertile field, supplying this great, growing market, will build a business and future on a more solid and substantial foundation than could be possible in any other part of the country.

The Raw Material is Here

The Southeast is the logical place for manufacturers to locate. The iron, steel, coal, woods, water-power, low-priced, intelligent labor, most favorable climatic conditions, transportation facilities—all are here at your door.

Remember the Panama Canal

It is confidentially stated by Mr. Taft that in the summer of 1913 ships will be passing through the Panama Canal. Can you not see wonderful possibilities in this fact alone? It means that the South will be the nearest manufacturing section to the great west coast markets of South America.

Investigate These Advantages and be Convinced

Let us know the line in which you are interested and experienced—ask us any questions—we will do all in our power to aid you.

M. V. RICHARDS

Land and Industrial Agent, Southern Railway, Room 52

WASHINGTON, D. C.

In the Center of A Nation's Industrial Activities

Have you ever carefully analyzed the strategic position occupied by the territory traversed by the Clinchfield in relation to some of the most important consuming markets of the country?

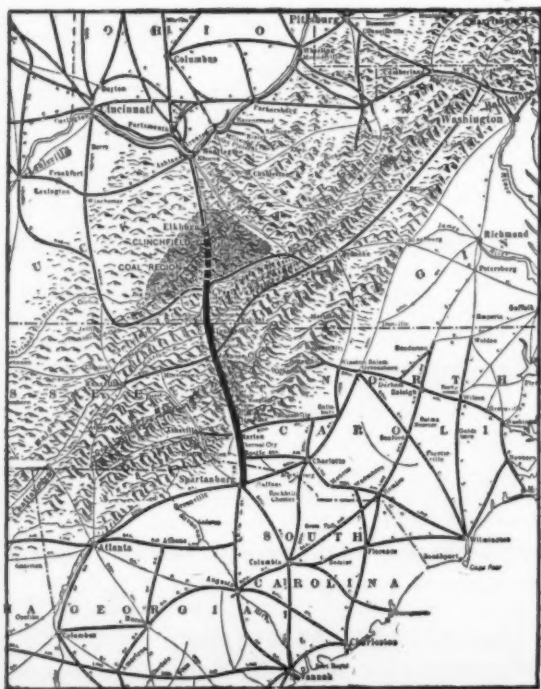
Have you realized that throughout that territory east of the Mississippi River this is the most important region, possessing a wide variety of raw materials and fine agricultural and timber lands still practically in a virgin state?

Have you appreciated the fact that this territory has a great beehive of industry to the West, a vast consuming area to the North, a splendid outlet to the markets of the world to the East, and a continually expanding industrial country to the South?

Do you know that the Clinchfield extends through the very heart of this region, running from Dante in Southwest Virginia through Eastern Tennessee and Western North Carolina to Spartanburg, S. C., and connects with the Louisville & Nashville, Norfolk & Western, Southern and Seaboard Air Line railways, reaching North, East, South and West?

With these facts in mind, do you not grasp the strategic position possessed by this territory for reaching the country's large consuming markets?

Combine this splendid location with an abundant supply of coal, water-powers, diversified mineral deposits, virgin hardwood timber tracts, and other raw materials, white labor, an ideal climate, and ample railroad facilities, and where can be found a section that offers greater opportunities to the investor, the manufacturer, the farmer and the home-seeker?



Our booklet, "The Land of Opportunities," will give you some idea of the richness of this newly opened country. Send for a copy.

Carolina, Clinchfield & Ohio Rwy.

"THE ROAD OF OPPORTUNITY"

J. J. Campion,
V.-P. and Traffic Manager

R. F. Brewer,
Industrial Agent

Johnson City, Tenn.

Coal of West Virginia vs. Coal of Europe

Great Britain, Germany, France, Austria and Belgium, with a combined population of nearly 190,000,000, have an aggregate coal land area of.....17,011 sq. miles

West Virginia alone has a coal land area of.....17,000 sq. miles

And West Virginia's coal is nearer to the surface and in wider veins, so that while in area it is practically equal to the entire coal area of all the European countries named, its quantity probably far exceeds their total coal supply.

Coal is the moving power of the industrial world.

Coal made possible the development of Great Britain's enormous wealth.

Coal gave to Great Britain for many years the supremacy in iron and steel, and made possible the development of its vast textile interests, until Great Britain now has nearly one-half of the cotton spindles of the world.

Coal gave to Great Britain its power when the steamship displaced the sailing vessel to dominate the world's commerce through its enormous coal-driven merchant marine.

Primarily, the foundation on which the wealth and commerce of Great Britain is based is its coal, for without its coal it could never have achieved its industrial and its world-wide shipping conquests.

Following Great Britain for many years, and now surpassing Great Britain in the magnitude of its iron and steel interests, came Germany.

The marvelous expansion of Germany's foreign commerce, its wonderful advance in iron and steel, until it has become the second iron and steel producing country in the world, were based on coal.

Without coal Germany could not have made these achievements.

What is true in this respect of Great Britain and Germany is true of all Europe and of all the world.

Power, and primarily that means coal, and its utilization must be the measure of a Nation's material development.

In the light of these facts study the boundless possibilities of West Virginia's coal.

The wealth and industrial power, the enormous railroad traffic, the great cities and the vast manufacturing enterprises of Great Britain, Germany, France, Belgium and Austria, created by the power of coal, give some slight hint of what nature had in store for West Virginia when it piled its billions of tons of coal mountain high and cut its mountains by rivers, making possible the construction of railroads that this traffic might flow along the lines of least resistance.

When one contemplates what coal has meant in world development, he gets a faint realization of what coal is to mean in the creation of wealth and the building of cities, the establishment of industrial interests in such a center of coal and a center so wonderfully blessed with resources of timber, of iron ore, of clays, of cement rock, and other raw materials for the widest diversity of industrial activities as West Virginia.

When to these things are added the almost limitless supply of natural gas available for manufacturing purposes, the millions of barrels of oil poured from its wells, its bracing climate and its remarkable geographical location, with the teeming West on one side and the Atlantic Seaboard on the other, and the world open for the expansion of its trade, one gets a fair idea of what West Virginia is, and is to be, as he studies these facts.

Farseeing investors and manufacturers look to such a country as the best in which to operate. Write our Industrial Department for further facts.

Baltimore & Ohio Railroad

W. W. Wood, Industrial Agent

Baltimore, Md.

Four Crops a Year

In Louisiana and Mississippi there are millions of acres of wet prairie lands awaiting the brain and energy of land operators and farmers to transform them into the most productive farm lands in America—lands that will yield four bountiful crops a year.

Formed by the richest soils of the whole Mississippi Valley, brought down for centuries by that river and its tributaries and deposited here by every recurrent flood, these lands constitute the most fertile farming areas in these States, and are surpassed by none in the world in productive capacity.

From such parts already drained it has been conclusively shown that the engineering problems in connection with their reclamation are simple, while the cost of reclamation is comparatively small, running from \$15 to \$20 per acre in small tracts to as low as \$6 to \$8 per acre for large ones.

When drained these wet prairie lands yield abundant crops; they are indeed the richest farm lands known to the world.

They are also adapted to the growth of a wide range of products, which by the best transportation facilities, can reach local markets as well as all the leading cities of the country.

Thousands of acres of these lands in Louisiana and Mississippi have been purchased and drained in the last few years by capitalists from the North and West, and thousands of farmers have located on them.

The start has been made. The fertility, productivity and healthfulness of the lands have been demonstrated beyond question. There are still millions of acres awaiting development.

We have a number of interesting pamphlets showing the extent of these lands and what has been accomplished on them. Send for them.

Illinois Central Railroad
Chicago, Ill.

*J. C. Clair,
Industrial
and
Immigration
Commissioner
Chicago, Ill.*

Industrial and Commercial Resources of Florida

Something else besides climate, sunshine and pleasure. And even boundless resources aside from the proven commercial importance of its citrus fruits and early vegetables, which have placed the agricultural supremacy of this great State beyond dispute.

It is the aim of this railroad to place before the world the great industrial resources of Florida, so that the capitalist and the manufacturer as well as the homeseeker, may have the opportunity of learning more of the industrial possibilities of a State heretofore mistakenly classed by most people as mainly agricultural.

It is our purpose to show (and we shall have more to say about this in succeeding numbers of this publication) that if capital, brains and energy will take up the opportunities in

Woodworking
Naval Stores

Palmetto Fibre
Clays Peat

Cement
Canning

And **Sugar** (now that the drainage of the Everglades is under way), there will be found many inviting opportunities for large returns on the investment.

The Florida East Coast Railway extends to the people of other sections, as well as to the people along its lines, a cordial invitation to avail themselves of the information on file in its Industrial Department. Write us.

Florida East Coast Railway

J. E. INGRAHAM, Vice-President

ST. AUGUSTINE, FLA.

- Abrasive Materials.**
Abrasive Material Co., Philadelphia, Pa.
Carborundum Co., Niagara Falls, N. Y.
Norton Co., Worcester, Mass.
Vitrified Wheel Co., Westfield, Mass.
- Accountants.**
Baltimore Audit Co., Baltimore, Md.
Crusell Audit Co., Atlanta, Ga.
Interstate Audit Co., Washington, D. C.
Neville, Chas., Savannah, Ga.
- Adding Machines.**
Adder Machine Co., Wilkes-Barre, Pa.
Burroughs Adding Machine Co., Detroit, Mich.
- Agents.** (Manufacturers.)
Allen, Herbert F. L., Washington, D. C.
Southern Steel Products Co., Inc., Richmond, Va.
- Agricultural Implements.**
Appomattox Iron Works, Petersburg, Va.
Myers & Bro., F. E., Ashland, O.
- Air Compressors.** (Stationary and Portable.)
Allen, Herbert F. L., Washington, D. C.
American Air Compressor Wks., New York, N. Y.
American Compressor & Pump Co., Baltimore, Md.
Chicago Pneumatic Tool Co., Chicago, Ill.
General Electric Co., Schenectady, N. Y.
Ingersoll-Rand Co., New York, N. Y.
Meklerman-Terry Drill Co., New York, N. Y.
Union Steam Pump Co., Battle Creek, Mich.
- Air Motors.**
Duke Engine Co., Grand Haven, Mich.
Ingersoll-Rand Co., New York, N. Y.
- Aluminum Products.** (Bars, Sheets, Tubes, etc.)
Aluminum Company of America, Pittsburgh, Pa.
- Alumund Wheels.**
Norton Company, Worcester, Mass.
- Anti-Friction Metals.**
Bailey-Lebby Co., Charleston, S. C.
Dodge Manufacturing Co., Mishawaka, Ind.
Gilbert & Sons Brass Fdry. Co., A., St. Louis, Mo.
Phosphor-Bronze Bushing Co., Phila., Pa.
Virginia Railway Supply Co., Norfolk, Va.
- Architects.**
Cottman & Cottman, Greenwood, S. C.
Koeth, L. A. H., Wilmington, N. C.
Lockwood, Greene & Co., Boston, Mass.
McLaughlin & Johnson, Lynchburg, Va.
Milburn, Heister & Co., Washington, D. C.
Northrup, Willard C., Winston-Salem, N. C.
Pettit & Cave, Danville, Va.
Shand & Lafaye, Columbia, S. C.
Sirlime, J. L., Greenville, S. C.
- Architects' Supplies.**
Keuffel & Esser, Hoboken, N. J.
Starrett Co., L. S., Attol, Mass.
Weber & Co., F., Philadelphia, Pa.
- Architectural Iron and Sheet Metal Work.**
Bolles Iron & Wire Works, J. E., Detroit, Mich.
Chesapeake Iron Works, Baltimore, Md.
Des Moines Bridge & Iron Co., Des Moines, Ia.
Schreiber & Sons Co., The, Cincinnati, O.
Sneed Architectural Iron Works, Louisville, Ky.
- Art Glass.**
Blawiegar & Co., Memphis, Tenn.
- Art Glass and Prisms.** (Set in Zinc and Copper.)
Spless Art Glass Co., G. A., St. Louis, Mo.
- Asbestos.**
Carolina Portland Cement Co., Charleston, S. C.
Johns-Manville Co., H. W., New York, N. Y.
Southern Pipe Covering Co., Inc., Richmond, Va.
- Asphalt.**
Armistead Mfg. Co., Richmond, Va.
Barber Asphalt Paving Co., Philadelphia, Pa.
Gulf Refining Co., Pittsburg, Pa.
Texas Co., The, New York, N. Y.
- Asphalt Roofing and Siding.** (Bird Sand and Chipped Slate Surfaced.)
Bermingham & Seaman Co., Chicago, Ill.
- Automatic Buckets.**
Browning Engineering Co., Cleveland, O.
- Automobiles.** (Passenger.)
Interstate Automobile Co., Muncie, Ind.
- Automobiles.** (Motor Trucks.)
Kelly Motor Truck Co., Springfield, O.
Schmidt Motor Car Co., Cincinnati, O.
- Axles.** [See Car Wheels, Axles and Trucks.]
- Babbitt Metal.** [See Anti-Friction Metals.]
- Badges.** (Hat and Breast, Electric and Steam Road, Police and Fire Dept.)
American Railway Supply Co., New York, N. Y.
- Bakers' Machinery.**
Lynn Superior Co., The, Cincinnati, O.
- Bankers and Brokers.**
Baltimore Trust Co., Baltimore, Md.
Delaware Trust Co., Wilmington, Del.
Electric Bond & Share Co., New York, N. Y.
Florida Trust Co., Jacksonville, Fla.
Glenn, W. S., Spartanburg, S. C.
Guaranty State Bank & Trust Co., Dallas, Tex.
Halsey & Co., N. W., New York, N. Y.
Lisman & Co., F. J., New York, N. Y.
Mercantile Trust & Deposit Co., Baltimore, Md.
New First National Bank, Columbus, O.
Nuven & Co., John, Chicago, Ill.
Savannah Bank & Trust Co., Savannah, Ga.
Short & Son, John C., New York, N. Y.
Southern States Development Co., New York, N. Y.
Violet & Co., Atwood, New York, N. Y.
- Banks.**
First National Bank, Baltimore, Md.
First Nat'l Bank of Key West, Key West, Fla.
First National Bank, Richmond, Va.
Guaranty State Bank & Trust Co., Dallas, Tex.
Merchants National Bank, Baltimore, Md.
New First National Bank, Columbus, O.
National Exchange Bank, Baltimore, Md.
Savannah Bank & Trust Co., Savannah, Ga.
- Bank and Office Railings and Grilles.** (Iron.)
Bolles Iron & Wire Works, J. E., Detroit, Mich.
Buckeye Wire & Iron Works Co., Columbus, O.
Chattanooga Iron & Wire Wks., Chattanooga, Tenn.
Chesapeake Iron Works, Baltimore, Md.
Cincinnati Mfg. Co., Cincinnati, O.
Dow Wire Works, Louisville, Ky.
Dufur & Co., Baltimore, Md.
Dufur, Baggett & Co., Baltimore, Md.
Jones & Co., L. E., Baltimore, Md.
Meyers Mfg. Co., F. J., Hamilton, O.
Ohio Elevator & Machine Co., The, Columbus, O.
- Bank Fixtures.**
Ruse & Thompson, Baltimore, Md.
- Bar Iron.** (Refined and Galvanized.)
Carnegie Steel Co., Pittsburgh, Pa.
Nictown Plate Washer Co., Philadelphia, Pa.
- Bars, Wire, Wire Fabric, etc.** (Steel for Concrete-Steel Construction.)
American Steel & Wire Co., Chicago, Ill.
American System of Reinforcing, Chicago, Ill.
Cincinnati Iron & Steel Co., Cincinnati, O.
Concrete-Steel Co., The, New York, N. Y.
- Concrete Steel Engineering Co., New York, N. Y.**
Franklin Steel Co., Franklin, Pa.
Hoffman & Co., R. C., Baltimore, Md.
Jones & Sons, Inc., Pittsburg, Pa.
Southern Steel Products Co., Inc., Richmond, Va.
Wight & Co., W. N., New York, N. Y.
- Bearings.** (Ball.)
Bretz Co., J. S., New York, N. Y.
Hyatt Roller Bearing Co., Newark, N. J.
Standard Roller Bearing Co., Philadelphia, Pa.
- Bearings.** (Brass Journal.)
Gilbert & Sons Brass Fdry. Co., A., St. Louis, Mo.
- Bearings.** (Locomotive and Car.)
Keystone Bronze Co., Pittsburg, Pa.
- Bearings.** (Oilless.)
North Amer. Metaline Co., Long Island City, N. Y.
- Bearings.** (Roller.)
Hyatt Roller Bearing Co., Newark, N. J.
Standard Roller Bearing Co., Philadelphia, Pa.
- Bells.** (Call.)
Holtzer-Cabot Electric Co., Boston, Mass.
- Bells and Gongs.**
National Tube Co., Pittsburg, Pa.
Western Electric Co., New York, N. Y.
- Belting.** (Leather, Canvas, Rubber.)
American Supply Co., Providence, R. I.
Bailey-Lebby Co., Charleston, S. C.
Baltimore Belting Co., Baltimore, Md.
Cameron & Barkley Co., Charleston, S. C.
Chesapeake Belting Co., Baltimore, Md.
Diamond Rubber Co., Akron, O.
Druid Oak Belting Co., Inc., The, Baltimore, Md.
Gandy Belting Co., Baltimore, Md.
Laden, Estate Edward, Glen Cove, N. Y.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
Rosendale-Rogers & H. Co., Newark, N. J.
Ward-Beeke Co., Washington, D. C.
Williams & Sons, L. B., Dover, N. H.
- Belting.** (Chain.)
Bartlett & Snow Co., C. O., Cleveland, O.
Caldwell & Sons Co., H. W., Chicago, Ill.
Jeffrey Mfg. Co., Columbus, O.
Link-Belt Co., Nictown (Philadelphia), Pa.
Morse Chain Co., Ithaca, N. Y.
- Belt Conveyors.**
Jeffrey Mfg. Co., Columbus, O.
Robins Conveying Belt Co., New York, N. Y.
- Belt Dressing.**
Diamond Rubber Co., Akron, O.
Gandy Belting Co., Baltimore, Md.
Laden, Estate Edward, Glen Cove, N. Y.
- Belt Fasteners.**
Crescent Belt Fastener Co., New York, N. Y.
- Belt Lacing.** [See Belting, Leather, Canvas, Rubber, and Supplies.]
- Bicarbonate Soda.** (Sap Stalk Lumber Dip.)
Church & Dwight Co., New York, N. Y.
- Blackboards.** (Slate.)
East Bangor Co., Slate Co., The, East Bangor, Pa.
Hower, J. K., Slatington, Pa.
Johnson, E. J., New York, N. Y.
- Block Tackle.** (For Wire or Manila Rope.)
Patterson Co., W. W., Pittsburg, Pa.
- Blowers and Exhaust Fans.**
American Blower Co., Detroit, Mich.
Buffalo Forge Co., Buffalo, N. Y.
Clark Co., Geo. F., Windsor Locks, Conn.
De Laval Steam Turbine Co., Trenton, N. J.
General Electric Co., Schenectady, N. Y.
Green Fuel Economizer Co., Matamoras, N. Y.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.
Savannah Blow Pipe Co., Savannah, Ga.
Skinner Bros., St. Louis, Mo.
Standard Blower & Metal Mfg. Co., Atlanta, Ga.
Sturtevant Co., B. F., Hyde Park, Mass.
- Blueprint Apparatus.**
Keuffel & Esser, Hoboken, N. J.
- Boilers.**
Abendroth & Root Mfg. Co., Newburgh, N. Y.
Ames Iron Works, Oswego, N. Y.
Babcock & Wilcox Co., New York, N. Y.
Brownell Co., Dayton, O.
Cameron & Barkley Co., Charleston, S. C.
Casey-Hedges Co., Chattanooga, Tenn.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago House Wrecking Co., Chicago, Ill.
Cole Mfg. Co., R. D., Newnan, Ga.
Cooper Co., C. & G., Mt. Vernon, O.
Gem City Boiler Co., Dayton, O.
Gibbs Machinery Co., Columbia, S. C.
Hartley Boiler Works, Montgomery, Ala.
Heine Safety Boiler Co., St. Louis, Mo.
Keeler Co., E., Williamsport, Pa.
Leakout Boiler & Mfg. Co., Chattanooga, Tenn.
Lombard Iron Works, Augusta, Ga.
Mecklenburg Iron Works, Charlotte, N. C.
Murray Iron Works Co., Burlington, Ia.
Petroleum Iron Works Co., Sharon, Pa.
Phoenix Iron Works Co., Meadville, Pa.
Price Machinery Co., S. M., Norfolk, Va.
Scheld & Sons Co., J. S., Macon, Ga.
Smith-Courtney Co., Richmond, Va.
Southern Engine & Boiler Works, Jackson, Tenn.
Union Iron Works Co., Selma, Ala.
Vaik & Murdock Iron Works, Charleston, S. C.
Vogt Machine Co., Henry, Louisville, Ky.
Walsh & Weidner Boiler Co., Chattanooga, Tenn.
- Boiler Setting.**
Harbison-Walker Refractories Co., Pittsburg, Pa.
- Boiler Tubes.** [See Tubes, Boiler.]
- Bolts, Nuts, Rivets, Studs and Washers.**
Lebanon Valley Iron & Steel Co., Lebanon, Pa.
Milton Mfg. Co., Milton, Pa.
Nictown Plate Washer Co., Philadelphia, Pa.
Republic Iron & Steel Co., Oungstown, O.
Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.
- Bonds.** (Surety, etc.)
Fidelity & Deposit Co., Baltimore, Md.
- Boring.** (Cylinder.)
Strickland Machine Co., Richmond, Va.
- Bottling Outfits.**
Vilter Mfg. Co., Milwaukee, Wis.
- Box Shooks.**
Naylor & Co., S. E., Gulfport, Miss.
- Brass Goods.**
Bailey-Lebby Co., Charleston, S. C.
Buckeye Iron & Wire Works, Dayton, O.
Powell Co., Wm., Cincinnati, O.
- Brazings.** (Cast Iron.)
Richmond Machine Works, Inc., Richmond, Va.
Strickland Machine Co., Richmond, Va.
- Brass Railings and Grilles, etc.**
McKenna Bros. Brass Co., Pittsburg, Pa.
- Brewers' Machinery.**
Vilter Mfg. Co., Milwaukee, Wis.
- Brick.** (Building.)
Am. Enamelled Brick & Tile Co., New York, N. Y.
Brookhaven Pressed Brick & Mfg. Co., Brookhaven, Miss.
- Brick.** (Blast Furnace, Coke Oven.)
Ashland Fire Brick Co., Ashland, Ky.
Hood, B. M., Atlanta, Ga.
- Brick.** (Enamelled.)
Amer. Enam. Brick & Tile Co., New York, N. Y.
- Brick.** (Fire Clay.)
Ashland Fire Brick Co., Ashland, Ky.
Brookhaven Pressed Brick & Mfg. Co., Brookhaven, Miss.
- Brick.** (New York, N. Y.)
Fiske & Co., Inc., New York, N. Y.
Harbison-Walker Refractories Co., Pittsburg, Pa.
Kilian Fire Brick Works, Killian, S. C.
Louisville Fire Brick Works, Highland Park, Ky.
Pomona Terra-Cotta Co., Pomona, N. C.
Stevens' Sons Co., H. L., Macon, Ga.
Taylor Sons Co., Chas., Cincinnati, O.
Union Mining Co., Mt. Savage, Md.
- Brick.** (Magnesia.)
Harbison-Walker Refractories Co., Pittsburg, Pa.
- Brick.** (Paving.)
Carlyle Paving Brick Co., Portsmouth, O.
Copeland-Ingalls Shale Brick Co., Birmingham, Ala.
- Brick.** (Silica.)
Harbison-Walker Refractories Co., Pittsburg, Pa.
- Brick and Clayworking Machinery and Supplies.**
American Clay Mchry. Co., The, Bucyrus, O.
Carnell, George, Philadelphia, Pa.
Fennholtz Brick Machinery Co., St. Louis, Mo.
Freese & Co., E. M., Galion, O.
Gibbs Machinery Co., Columbia, S. C.
Scott-Madden Iron Works, Keokuk, Iowa.
Steele & Sons, J. C., Stateville, N. C.
Taplin-Rice-Clerkin Co., Akron, O.
- Brick Fireplaces.** [See Fireplaces, Artistic Brick.]
- Brick Machinery.** (Sand Lime.) [See Sand-Lime Brick Machinery.]
- Brickwork.** (Artistic.)
Fiske & Co., Inc., New York, N. Y.
- Bridges.** (Concrete.)
Concrete Steel Engineering Co., New York, N. Y.
Roanoke Bridge Co., Roanoke, Va.
- Bridges.** (Rolling Lift.)
Scherzer Rolling Lift Bridge Co., Chicago, Ill.
- Bridges.**
American Bridge Co. of New York, New York, N. Y.
Baltimore Bridge Co., Baltimore, Md.
Belmont Iron Works, Inc., Philadelphia, Pa.
Chicago Bridge & Iron Wks., Chicago, Ill.
Des Moines Bridge & Iron Co., Des Moines, Ia.
Farris Bridge Co., Pittsburg, Pa.
Missouri Val. Bridge & Iron Co., Leavenworth, Kan.
Ritter-Conley Mfg. Co., Pittsburg, Pa.
Roanoke Bridge Co., Roanoke, Va.
Scherzer Rolling Lift Bridge Co., Chicago, Ill.
Vincennes Bridge Co., Vincennes, Ind.
Vincennes Bridge & Iron Co., Roanoke, Va.
York Bridge Co., York, Pa.
- Bridge and Structural Iron Paints.**
Carolina Portland Cement Co., Charleston, S. C.
Chattanooga Paint Co., Chattanooga, Tenn.
Detroit Graphite Co., Detroit, Mich.
Dixon Crucible Co., Joseph, Jersey City, N. J.
Standard Paint Co., New York, N. Y.
- Brimstone.**
Union Sulphur Co., New York, N. Y.
- Briquetting Machinery.** (Coal, Lignite, Ore.)
Devillers, Robert, Brooklyn, N. Y.
- Buckets.** (Excavators.)
Browning Mfg. Co., Mansfield, O.
Hayward Co., New York, N. Y.
Moulton Mch. Co., Chicago, Ill.
Owen Bucket Co., Cleveland, O.
Williams Co., The G. H., Cleveland, O.
- Buckets.** (Ore, etc.)
Brown Hoisting Mch. Co., Cleveland, O.
Browning Mfg. Co., Mansfield, O.
Caldwell & Son Co., H. W., Chicago, Ill.
Dodge Manufacturing Co., Mishawaka, Ind.
Hayward Co., New York, N. Y.
Link-Belt Co., Nictown (Philadelphia), Pa.
Owen Bucket Co., Cleveland, O.
Smith Co., T. L., Atlanta, Ga.
Williams Co., The G. H., Cleveland, O.
- Buhr Stones.**
Starr Co., B. F., Baltimore, Md.
- Builders and Contractors.**
Falls City Construction Co., Louisville, Ky.
Farris Bridge Co., Pittsburg, Pa.
Ferro Concrete Construction Co., Cincinnati, O.
Selden-Breck Construction Co., St. Louis, Mo.
White & Co., J. G., New York, N. Y.
- Buildings.** (Financed and Erected.)
Falls City Construction Co., Louisville, Ky.
Gulf Coast Construction Co., Houston, Tex.
- Building Supplies.**
Armistead Mfg. Co., Richmond, Va.
Carolina Portland Cement Co., Charleston, S. C.
Chicago House Wrecking Co., Chicago, Ill.
Southern Lime & Cement Co., Charleston, S. C.
Southern Building Material Co., Norfolk, Va.
Southern Steel Products Co., Inc., Richmond, Va.
- Burial-Inserted Roofing and Siding.** (Flexible Cement.)
Bermingham & Seaman Co., Chicago, Ill.
- Burners.** (Oil.) [See Fuel Oil Equipments.]
- Bushings.** (Oilless, for Loose Pulleys.)
North Amer. Metaline Co., Long Island City, N. Y.
- Cables.**
American Steel & Wire Co., Chicago, Ill.
Broderick & Bascom Rope Co., St. Louis, Mo.
Roebing's Sons Co., John A., Trenton, N. J.
Williamsport Wire Rope Co., Williamsport, Pa.
- Cableways.** (Overhead Suspension.)
Broderick & Bascom Rope Co., St. Louis, Mo.
Consolidated Tramway Co., Roanoke, Va.
Flory Mfg. Co., S. Bangor, Pa.
Lidgerwood Mfg. Co., New York, N. Y.
Mead-Morrison Mfg. Co., Cambridgeport, Mass.
Roebing's Sons Co., John A., Trenton, N. J.
- Can and Box Making Machinery.** (Tin.)
Bliss Co., E. W., Brooklyn, N. Y.
- Cans.**
New Orleans Rfg. & Metal Wks., New Orleans, La.
Southern Can Co., Baltimore, Md.
- Canning Machinery and Supplies.**
Cannery & Packers' Supply Co., Baltimore, Md.
Robins & Co., A. K., Baltimore, Md.
- Carbide.**
Carbide & Iron Co., Birmingham, Ala.
Cinchfield Coal Corp., Spartanburg, S. C.
Cinchfield Fuel Co., Spartanburg, S. C.
Consolidated Coal Co., Inc., New York, N. Y.
Flat Top Fuel Co., Bluefield, W. Va.
Pittsburgh-Buffalo Co., Pittsburgh, Pa.
Tennessee Coal, Iron & R. R. Co., B'gh'm, Ala.
- Coal Briquetting Machinery.**
Devillers, Robert, Brooklyn, N. Y.
- Carbide.**
Carbide & Iron Co., Birmingham, Ala.
Cinchfield Coal Corp., Spartanburg, S. C.
Cinchfield Fuel Co., Spartanburg, S. C.
Consolidated Coal Co., Inc., New York, N. Y.
Flat Top Fuel Co., Bluefield, W. Va.
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Pittsburgh

Coal Cutters.

Ingersoll-Rand Co., New York, N. Y.
Jeffrey Mfg. Co., Columbus, O.
McKernan-Terry Drill Co., New York, N. Y.

Coal Handling Machinery.

Bartlett & Snow Co., C. O., Cleveland, O.
Brown Hoisting Mch. Co., Cleveland, O.
Hayward Co., New York, N. Y.
Hunt Co., C. W., West New Brighton, N. Y.
Jeffrey Mfg. Co., Nictown (Philadelphia), Pa.
Link-Belt Co., Nictown (Philadelphia), Pa.
Mead-Morrison Mfg. Co., Cambridgeport, Mass.
Mead-Morrison Mfg. Co., New York, N. Y.
Williams Co., The G. H., Cleveland, O.

Coal Tar and By-Products.

Bartlett Mfg. Co., Philadelphia, Pa.
Carolina Portland Cement Co., Charleston, S. C.

Coke.

Alabama Coal & Iron Co., Birmingham, Ala.
Flat Top Fuel Co., Bluefield, W. Va.
Pittsburgh-Buffalo Co., Pittsburgh, Pa.
Barnes, Brown & Co., Cincinnati, O.
Tennessee Coal, Iron & R. R. Co., B'ing'm, Ala.

Collapse Steel Forms. (For Concrete Work.)

Concrete Form & Engine Co., Detroit, Mich.

Concrete Construction (Steel Reinforcement.)

American Steel & Wire Co., Chicago, Ill.
American System of Reinforcing, Chicago, Ill.
Brown Hoisting Machinery Co., Cleveland, O.
Concrete Steel Engineering Co., New York, N. Y.
Form Concrete Construction Co., Cincinnati, O.
Form Concrete Construction Co., Nashville, Tenn.
Jeffrey Mfg. Co., Columbus, O.
Reichert Mfg. Co., Milwaukee, Wis.
Specialty Eng. Co., Houston, Tex.
Wight & Co., W. N., New York, N. Y.

Concrete Curb Protection. (Steel.)

Steel Protected Concrete Co., Philadelphia, Pa.

Concrete Dams.

Ambrose Hydraulic Const. Co., Boston, Mass.
Hydraulic Properties Co., New York, N. Y.

Concrete Floor Dressing. (Waterproof.)

Sheldon Varulch Co., Cleveland, O.

Concrete Forms. (Metal.)

Reichert Mfg. Co., Milwaukee, Wis.

Concrete Forms. (Steel Collapsible.)

Concrete Form & Engine Co., Detroit, Mich.

Concrete Mixers.

Carolina Portland Cement Co., Charleston, S. C.
Barka Machine Co., Lansing, Mich.
Jeffrey Mfg. Co., Columbus, O.
Milwaukee Concrete Mixer & Mch. Co., Milwaukee, Wis.
Smith Co., T. L., Atlanta, Ga.
Standard Scale & Supply Co., Pittsburg, Pa.
Waterloo Cement Mch. Co., Waterloo, Iowa.

Concrete Reinforcing Bars.

Carnegie Steel Co., Pittsburgh, Pa.
Concrete-Steel Co., The, New York, N. Y.
Concrete Steel Engineering Co., New York, N. Y.
Franklin Steel Co., Franklin, Pa.

Concrete Ties.

Universal Concrete Tie Co., New Orleans, La.

Condensers.

Albergo Condenser Co., New York, N. Y.
Dean Bros. Steam Pump Wks., Indianapolis, Ind.
Westinghouse Machine Co., Pittsburg, Pa.
Wheeler Condenser & Eng. Co., New York, N. Y.
York Mfg. Co., York, Pa.

Conductor Pipe.

Edwards Mfg. Co., Cincinnati, O.
Busey & Co., C. G., Pittsburg, Pa.
Milwaukee Corrugating Co., Milwaukee, Wis.

Contractors' Machinery and Supplies. [See also Hoisting Machinery.]

American Hoist & Derrick Co., St. Paul, Minn.
American Locomotive Co., New York, N. Y.
Austin Mfg. Co., Chicago, Ill.
Case Threshing Mch. Co., J. I., Racine, Wis.
Clyde Iron Works, Duluth, Minn.
Contractors' Plant Mfg. Co., Ltd., Buffalo, N. Y.
Ester Machine Works, Pittston, Pa.
Flory Mfg. Co., S., Bangor, Pa.
Hyde Bros. & Co., New York, N. Y.
Ingersoll-Rand Co., New York, N. Y.
Linton, W. J., New York, N. Y.
Miles Co., The, Cincinnati, O.
Marine Metal & Supply Co., New York, N. Y.
Maryland Equipment & Supply Co., Baltimore, Md.
Mead-Morrison Mfg. Co., Cambridgeport, Mass.
Monaghan Mch. Co., Chicago, Ill.
Oliver Mfg. Co., Wm. J., Knoxville, Tenn.
Owen Bucket Co., Inc., H. W., Philadelphia, Pa.
Pickett Co., Inc., H. W., Philadelphia, Pa.
Robins Conveying Belt Co., New York, N. Y.
Smith Co., T. L., Atlanta, Ga.
Williamson Bros. Co., Philadelphia, Pa.

Conveying Machinery.

Bartlett & Snow Co., C. O., Cleveland, O.
Brown Hoisting Mch. Co., Cleveland, O.
Caldwell & Son Co., H. W., Chicago, Ill.
Consolidated Trunkway Co., Roanoke, Va.
Dodge Manufacturing Co., Mishawaka, Ind.
Flory Mfg. Co., S., Bangor, Pa.
Hayward Co., New York, N. Y.
Hunt Co., C. W., West New Brighton, N. Y.
Jeffrey Mfg. Co., Columbus, O.
Lidgerwood Mfg. Co., New York, N. Y.
Link-Belt Co., Nictown (Philadelphia), Pa.
Mead-Morrison Mfg. Co., Cambridgeport, Mass.
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.
Robins Conveying Belt Co., New York, N. Y.

Cooling Towers.

Albergo Condenser Co., New York, N. Y.
Wheeler Condenser & Eng. Co., New York, N. Y.

Cordage.

American Mfg. Co., New York, N. Y.
Broderick & Bascom Rope Co., St. Louis, Mo.
Columbian Rope Co., Auburn, N. Y.
Plymouth Cordage Co., North Plymouth, Mass.
Turner Co., J. Spencer, New York, N. Y.
Whitlock Cordage Co., New York, N. Y.

Cordage Machinery.

Baskell-James Machine Co., Boston, Mass.

Corn-Mill Machinery.

Bordy & Marmion Co., Indianapolis, Ind.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.
Raz Co., B. F., Baltimore, Md.
Wolf Co., Chambersburg, Pa.

Cotton Duck.

Turner Co., J. Spencer, New York, N. Y.

Cotton Oil and Products.

American Cotton Oil Co., New York, N. Y.

Cotton Yarns. (Commission Merchants.)

Paulson, Linkroom & Co., New York, N. Y.

Cotton-Gin Machinery.

Carver Cotton Gin Co., East Bridgewater, Mass.
Functional Gin Co., Birmingham, Ala.
Gibbs Machinery Co., Columbia, S. C.
Van Winkle Gin & Machine Co., Atlanta, Ga.

Cotton-Mill Machinery.

American Mach. & Mfg. Co., Charlotte, N. C.
American Supply Co., Providence, R. I.
Draper Co., Hopedale, Mass.
Kitson Machine Shop, Lowell, Mass.
Lowell Machine Shop, Lowell, Mass.
Masson Machine Works, Taunton, Mass.
Saco-Peterson Co., Newton Upper Falls, Mass.
Whitman Machine Works, Whitinsville, Mass.
Whitinsville Spinning Ring Co., Whitinsville, Mass.

Cotton-Mill Supplies.

American Supply Co., Providence, R. I.
Whitinsville Spinning Ring Co., Whitinsville, Mass.

Cottonseed-Oil Machinery.

Buckeye Iron & Brass Works, Dayton, O.
Burruss Engineering Co., Atlanta, Ga.
Callahan Co., W. P., The, Dayton, O.
Cardwell Machine Co., Richmond, Va.
Carver Cotton Gin Co., East Bridgewater, Mass.
Continental Gin Co., Birmingham, Ala.
New York Imp. Pulv. Co., Chicago, Ill.
Van Winkle Gin & Machine Co., Atlanta, Ga.

Couplings.

American Spiral Pipe Works, Chicago, Ill.
Brown Co., A. F., New York, N. Y.
Caldwell Co., Inc., W. E., Louisville, Ky.
Dodge Manufacturing Co., Mishawaka, Ind.
Goldens Foundry & Machine Co., Columbus, Ga.
Sinclear-Scott Co., Baltimore, Md.
Wood's Sons, T. B., Chambersburg, Pa.

Couplings. (Car.)

Welmer Chain & Iron Co., Lebanon, Pa.

Couplings. (Hose, Air, Gas, Steam and Water.)

National Tube Co., Pittsburg, Pa.

Covering. (Pipe, Boiler, etc.)

Carolina Portland Cement Co., Charleston, S. C.
Johns-Manville Co., H. W., New York, N. Y.
Southern Pipe Covering Co., Inc., Richmond, Va.

Cranes. (Locomotive.)

American Hoist & Derrick Co., St. Paul, Minn.
Brown Hoisting Machinery Co., Cleveland, O.
Browning Engineering Co., Cleveland, O.
Exeter Machine Works, Pittston, Pa.
Ohio Locomotive Crane Co., Bucyrus, Ohio.

Cranes. (Traveling, Hand, Power, Hydraulic.)

Brown Hoisting Machinery Co., Cleveland, O.
Hayward Co., New York, N. Y.
Lane Mfg. Co., Montpelier, Vt.
Northern Engineering Works, Detroit, Mich.
Speldel, J. G., Reading, Pa.

Crayons.

Lowell Crayon Co., Lowell, Mass.

Crematories. (Garbage.)

Specialty Eng. Co., Houston, Tex.

Creosote.

Carolina Portland Cement Co., Charleston, S. C.

Creosote Oil.

Atlantic Turpentine & Red'n'g Co., Savannah, Ga.

Creosoted Wood Block. (Contractors for Laying.)

Creosoted Wood Block Pav. Co., New Orleans, La.

Creosoting Works.

Gulfport Creosoting Co., Gulfport, Miss.
Internat'l Creosot'g & Cons. Co., Galveston, Tex.
National Lumber & Creos. Co., Texarkana, Ark.
Southern Creosoting Co., Ltd., Sibley, La.
Southern Wood Preserving Co., Atlanta, Ga.

Crossarms and Pins.

Carolina Electrical Co., Raleigh, N. C.
Internat'l Creosot'g & Cons. Co., Galveston, Tex.
Southern Creosoting Co., Ltd., Sibley, La.
Western Electric Co., New York, N. Y.

Crossings. [See Railroad Frogs and Switches.]

Cross-tie Machine.

Standard Cross Tie Mch. Co., New Orleans, La.

Crossties.

Internat'l Creosot'g & Cons. Co., Galveston, Tex.
National Lumber & Creos. Co., Texarkana, Ark.
Naylor & Co., S. E., Gulfport, Miss.
Southern Creosoting Co., Ltd., Sibley, La.
Universal Concrete Tie Co., New Orleans, La.

Crossties. (Reinforced Concrete.)

Universal Concrete Tie Co., New Orleans, La.

Crossties. (Steel.)

Carnegie Steel Co., Pittsburgh, Pa.

Crushers. (Corn and Cob.)

Gardner Crusher Co., New York, N. Y.
Jeffrey Mfg. Co., Columbus, O.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.
Williams Pat. Crusher & Pulv. Co., Chicago, Ill.

Crushers. (Rock.)

Austin Mfg. Co., Chicago, Ill.
Case Threshing Mch. Co., J. I., Racine, Wis.
Cresson Co., Geo. V., Philadelphia, Pa.
Gardner Crusher Co., New York, N. Y.
Lehigh Crusher Co., Ltd., Catasauqua, Pa.
Power & Mining Machinery Co., Cudahy, Wis.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.
Smith Co., T. L., Atlanta, Ga.
Universal Road Mch. Co., Kingston, N. Y.
Waterloo Cement Mch. Co., Waterloo, Iowa.

Crushing and Pulverizing Machinery.

Aising Engineering Co., J. R., New York, N. Y.
Austin Mfg. Co., Chicago, Ill.
Bartlett & Snow Co., C. O., Cleveland, O.
Cresson Co., Geo. V., Philadelphia, Pa.
Gardner Crusher Co., New York, N. Y.
Jeffrey Mfg. Co., Columbus, O.
Lehigh Crusher Co., Ltd., Catasauqua, Pa.
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.
Power & Mining Machinery Co., Cudahy, Wis.
Pratt Engineering & Mach. Co., Atlanta, Ga.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.
Walker & Elliott, Wilmington, Del.
Williams Pat. Crusher & Pulv. Co., Chicago, Ill.

Culverts. (Corrugated Metal.)

American Rolling Mill Co., Middletown, O.
Canton Culvert Co., The, Canton, O.
Dixie Culvert & Metal Co., Atlanta, Ga.
Kentucky Culvert Mfg. Co., Buechel, Ky.
New Orleans Rfr. & Metal Wks., New Orleans, La.
North Carolina Metal Culv. Co., Greensboro, N. C.
Roanoke Bridge Co., Roanoke, Va.
Tennessee Metal Culvert Co., Nashville, Tenn.
Virginia Metal Culvert Co., Roanoke, Va.

Culverts. (Vitrified Pipe.)

Stevens Sons Co., H., Macon, Ga.

Cupola Furnaces.

Northern Engineering Works, Detroit, Mich.
Peterson Co., J. W., Philadelphia, Pa.
Petroleum Iron Works Co., Sharon, Pa.

Cuts. (Half-tone, Line, etc.)

Baltimore Maryland Env. Co., Baltimore, Md.

Cutter Heads. (Woodworking.)

Shimer & Sons, Samuel J., Milton, Pa.

Cutter Grinders.

Abrasive Material Co., Philadelphia, Pa.
Vitrified Wheel Co., Westfield, Mass.

Dams. (Reinforced Concrete.)

Ambrose Hydraulic Const. Co., Boston, Mass.
Hydraulic Properties Co., New York, N. Y.

Derricks and Derrick Fittings.

American Hoist & Derrick Co., St. Paul, Minn.
Monaghan Machine Co., Chicago, Ill.
National Hoisting Engine Co., Harrison, N. J.
Waterloo Cement Mch. Co., Waterloo, Iowa.

Designers and Illustrators. (Printed Matter.)

Baltimore Maryland Env. Co., Baltimore, Md.

The Makers. (Special.)

Black & Decker Mfg. Co., Baltimore, Md.

Ditching Machinery.

American Hoist & Derrick Co., St. Paul, Minn.
American Steel Dredge Co., Ft. Wayne, Ind.
Browning Mfg. Co., Mansfield, O.
Fairbanks Steam Shovel Co., Marion, O.
Hayward Co., The, New York, N. Y.
Marion Steam Shovel Co., Marion, O.
Monaghan Machine Co., Chicago, Ill.
Owen Bucket Co., Cleveland, O.
Williams Co., The G. H., Cleveland, O.

Doors. (Birch Veneered.)

Carolina Portland Cement Co., Charleston, S. C.
Massee & Felton Lumber Co., Macon, Ga.

Doors. (Steel Rolling.)

Kinnear Mfg. Co., Columbus, O.

Doors. (Tin Clad.)

Victor Mfg. Co., Newburyport, Mass.

Doors, Partitions. (Metallic.)

Dahlstrom Metallic Door Co., Jamestown, N. Y.
United States Metal Products Co., New York, N. Y.

Doors, Sash and Blinds.

Columbus Iron Works Co., Columbus, Ga.
Massee & Felton Lumber Co., Macon, Ga.

Draftsmen's Supplies.

Keuffel & Esser, Hoboken, N. J.
Weber & Co., F., Philadelphia, Pa.

Dredge Chains.

Welmer Chain & Iron Co., Lebanon, Pa.

Dredges. [See Excavating Machinery.]

Drills. (Pneumatic.) [See also Drills, Rock and Mining.]

Drills. (Prospecting.)
Fort Wayne Electric Works, Fort Wayne, Ind.
Ingersoll-Rand Co., New York, N. Y.
Keystone Steam Well Mach. Co., Beaver Falls, Pa.
McKernan-Terry Drill Co., New York, N. Y.

Drills. (Rock and Mining.)

Chicago Pneumatic Tool Co., Chicago, Ill.
Fort Wayne Electric Works, Fort Wayne, Ind.
Independent Pneumatic Tool Co., Chicago, Ill.
Ingersoll-Rand Co., New York, N. Y.
Jeffrey Mfg. Co., Columbus, O.
McKernan-Terry Drill Co., New York, N. Y.
Wicks Bros., Jersey City, N. J.

Drills. (Twist.)

Managing, Maxwell & Moore, Inc., New York, N. Y.
Morris Twist Drill & Mch. Co., New Bedford, Mass.

Drive Well Points and Well Supplies.

National Tube Co., Pittsburg, Pa.

Drop Forgings.

American Spiral Pipe Works, Chicago, Ill.
Great Southern Automobile Co., Birmingham, Ala.
Richmond Forgings Corporation, Richmond, Va.

Drop Forging Machinery.

Bliss Co., E. W., Brooklyn, N. Y.

Drying Machinery.

American Blower Co., Detroit, Mich.
American Process Co., New York, N. Y.
Bailey-Libby Co., The, Charleston, S. C.
Buffalo Forge Co., Buffalo, N. Y.
Ruggles-Coles Engineering Co., New York, N. Y.
Sturtevant Co., B. F., Hyde Park, Mass.

Drykilns.

American Blower Co., Detroit, Mich.
Buffalo Forge Co., Buffalo, N. Y.
Union Iron Works Co., Setau, Ala.

Dumbwaiters.

Hollister-Whitney Co., Quincy, Ill.
Sidney Elevator & Mfg. Co., Sidney, O.
Speldel, J. G., Reading, Pa.

Dump Wagons and Wagon Boxes.

Case Threshing Mch. Co., J. I., Racine, Wis.
Eagle Wagon Works, Auburn, N. Y.
Troy Wagon Works Co., Troy, O.

Dust-Collecting Systems.

Buffalo Forge Co., Buffalo, N. Y.
Savannah Blow Pipe Co., Savannah, Ga.
Skinner Bros., St. Louis, Mo.
Smith Roofing Co., Wilmington, N. C.
Standard Blower & Metal Mfg. Co., Atlanta, Ga.

Dynamite.

du Pont de Nemours Powder Co., E. I., Wilmington, Del.

Dynamics and Motors. (Steam Turbine.)

De Laval Steam Turbine Co., Trenton, N. J.
Emerson Steam Pump Co., Alexandria, Va.
Fort Wayne Electric Works, Ft. Wayne, Ind.
General Electric Co., Schenectady, N. Y.
Southwest Fdry. & Mch. Co., Philadelphia, Pa.
Terry Steam Turbine Co., New York, N. Y.
Western Electric Co., New York, N. Y.
Westinghouse Elec. & Mfg. Co., Pittsburg, Pa.

Eaves. (Trough.)

Edwards Mfg. Co., Cincinnati, O.
Hussey & Co., C. G., Pittsburg, Pa.
Milwaukee Corrugating Co., Milwaukee, Wis.

Electric Machinery. (Dynamometers, Generators, Motors, etc.)

Allis-Chalmers Co., Milwaukee, Wis.
American Engine Co., Bound Brook, N. J.
American Machine Co., Louisville, Ky.
Crockett-Wheeler Co., Amper, N. J.
Doubleday-Hill Electric Co., Pittsburg, Pa.
Engberg's Elec. & Mech. Works, St. Joseph, Mo.
Fairbanks, Morse & Co., Chicago, Ill.
Fort Wayne Electric Works, Ft. Wayne, Ind.
General Electric Co., Schenectady, N. Y.
Gregory Electric Co., Chicago, Ill.
Kentucky Electrical Co., Owensboro, Ky.
Lee Electric Co., Baltimore, Md.
Miller-Owen Elec. Co., Pittsburg, Pa.
Piedmont Electric Co., Asheville, N. C.
Ridgway Dynamo & Engine Co., Ridgway, Pa.
Riker Machinery Co., New York, N. Y.
Robbins & Myers Co., Springfield, O.
Southwest Fdry. & Mch. Co., Philadelphia, Pa.
Sturtevant Co., B. F., Hyde Park, Mass.
Triumph Electric Co., Cincinnati, O.
Westinghouse Elec. & Mfg. Co., Pittsburg, Pa.

Electrical Contractors, Instruments and Supplies.

American Mach. & Mfg. Co., Charlotte, N. C.
Crockett-Wheeler Co., Amper, N. J.

Doubleday-Hill Electric Co., Pittsburg, Pa.
Electrical Engineers' Equip. Co., Chicago, Ill.
Engberg's Elec. & Mech. Works, St. Joseph, Mo.
Fort Wayne Electric Works, Ft. Wayne, Ind.
General Electric Co., Schenectady, N. Y.
Gregory Electric Co., Chicago, Ill.
Johns-Manville Co., H. W., New York, N. Y.
Kentucky Electrical Co., Owensboro, Ky.
Lee Electric Co., Baltimore, Md.
Lory, Deronda, Columbus, Ga.
Piedmont Electric Co., Asheville, N. C.
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Westinghouse Elec. & Mfg. Co., Pittsburg, Pa.

Electrical Power-House Supplies.

Electrical Engineers' Equip. Co., Chicago, Ill.

Electro Magnet. [See Magnet Electro.]

Elevating, Conveying and Power Transmission Machinery. [See also Conveying Mch. and Power Transmission Mch.]

Jeffrey Mfg. Co., Columbus, O.

Elevators.

Albro-Clem Elevator Co., Philadelphia, Pa.
American Machine Co., Louisville, Ky.
Curran Elevator Co., James H., Cincinnati, O.
Hollister-Whitney Co., Quincy, Ill.
Kansas City Elevator Mfg. Co., Kansas City, Mo.
Moffatt Machinery Mfg. Co., Charlotte, N. C.
Ohio Elevator & Machine Co., Columbus, O.
Otis Elevator Co., New York, N. Y.
Sidney Elevator & Mfg. Co., Sidney, O.
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Warsaw Elevator Co., Warsaw, N. Y.
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 Otto Gas Engine Works, Philadelphia, Pa.
 Standard Gas Power Co., Atlanta, Ga.
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Engines. (Steam.)
 Aills-Chalmers Co., Milwaukee, Wis.
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 American Hoist & Derrick Co., St. Paul, Minn.
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 Chicago House Wrecking Co., Chicago, Ill.
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 Phoenix Iron Works Co., Meadville, Pa.
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 Purser, J. R., Charlotte, N. C.
 Ridgway Dynamo & Engine Co., Ridgway, Pa.
 Schuchel's Sons Co., J. S., Macon, Ga.
 Smith-Country Co., Richmond, Va.
 Southern Engine & Boiler Works, Jackson, Tenn.
 Sturtevant Co., B. F., Hyde Park, Mass.
 Union Iron Works Co., Selma, Ala.
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Engines. (Truck and Aeroplane.)
 Black & Decker Mfg. Co., Baltimore, Md.
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 Young & Selden Co., Baltimore, Md.
Excavating Machinery. (Steam Shovels, etc.)
 American Locomotive Co., New York, N. Y.
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Exhibits. (Machinery Builders' Equipment and Supplies.)
 Bourse, The, Philadelphia, Pa.
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Expansion Joints.
 Alberger Condenser Co., New York, N. Y.
 Badger & Sons Co., E. B., Boston, Mass.
Explosives.
 du Pont de Nemours Powder Co., E. I., Wilmington, Del.
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 Blake Car Step Works, Charlotte, N. C.
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 Doubleday-Hill Electric Co., Pittsburgh, Pa.
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 Murray Iron Works Co., Burlington, Ia.
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 Scaife & Sons Co., Wm. B., Pittsburg, Pa.
 Stewart Heater Co., Buffalo, N. Y.
 Wilmington Iron Works, Wilmington, N. C.
Feed-Water Heater and Purifier and Oil Separator Combined.
 Blake & Knowles Steam Pump Works, New York, N. Y.
 Stewart Heater Co., Buffalo, N. Y.
Felt. (Building, Sheathing.)
 Barrett Mfg. Co., Philadelphia, Pa.
Fencing, Entrance Gates. (Iron, Steel, Wire.)
 American Steel & Wire Co., Chicago, Ill.
 Bolles Iron & Wire Works, J. E., Detroit, Mich.
 Dow Wire Works, Louisville, Ky.
 Dufur & Co., Baltimore, Md.
 New Jersey Wire Cloth Co., Trenton, N. J.
 Ohio Elevator & Mach. Co., The, Columbus, O.
Fertilizer Machy. [See also Phosphate Mch.]
 Campbell, P. F., Philadelphia, Pa.
 Pratt Eng. & Mch. Co., Atlanta, Ga.
 Smith Co., T. L., Atlanta, Ga.
 Walk & Murdock Iron Works, Charleston, S. C.
 Walker & Elliott, Wilmington, Del.
 Wilmington Iron Works, Wilmington, N. C.
Files.
 Barnett Co., G. & H., Philadelphia, Pa.
 Delta File Works, Philadelphia, Pa.
 Nicholson File Co., Providence, R. I.
Filters. (Water, for Domestic and Industrial Purposes.)
 American Water Softener Co., Philadelphia, Pa.
 International Filter Co., Chicago, Ill.
 Lynn-Superior Co., The, Cincinnati, O.
 New York Con. Jewell Fil. Co., New York, N. Y.
 Roberts Filter Mfg. Co., Philadelphia, Pa.
 Scaife & Sons Co., Wm. B., Pittsburg, Pa.
 Tucker & Laxton, Charlotte, N. C.
Financial Publication.
 Financial Review, New York, N. Y.
Fire Alarm Boxes.
 Balto. Mch. Products Co. (Relay Station P. O.), Baltimore, Md.
Fire Clay Bricks. [See Brick, Fire Clay.]
Fire Box Blocks.
 Ashland Fire Brick Co., Ashland, Ky.
Fire Door Fixtures.
 Peters & Son, Jas., Philadelphia, Pa.
 Victor Mfg. Co., Newburyport, Mass.
Fire Extinguishers.
 Badger & Sons Co., E. B., Boston, Mass.
 General Fire Extinguisher Co., Providence, R. I.
Fire Escapes.
 Bolles Iron & Wire Works, J. E., Detroit, Mich.
 Chesapeake Iron Works, Baltimore, Md.
Fire Insurance.
 Hartford Fire Insurance Co., Hartford, Conn.
Fireplaces. (Artistic Brick.)
 Fiske & Co., Inc., New York, N. Y.
Fireproof Building Construction. (Steel.) [See Concrete Construction.]
Fireproof Building Material.
 Dahlstrom Metallic Door Co., Jamestown, N. Y.
 Johns-Manville Co., H. W., New York, N. Y.
Fireproof Doors and Shutters.
 Dahlstrom Metallic Door Co., Jamestown, N. Y.
 Klineair Mfg. Co., Columbus, O.
 New Orleans Roof & Metal Co., New Orleans, La.
 Richmond Safety Gate Co., Richmond, Ind.
 United States Metal Products Co., New York, N. Y.
 Victor Mfg. Co., Newburyport, Mass.
Fireproof Windows. [See Window Frames and Sashes (Fireproof).]
Fire Protection Hardware.
 Peters & Son, Jas., Philadelphia, Pa.
Flanges. (Iron and Steel.)
 American Cast Iron Pipe Co., Birmingham, Ala.
 American Pipe & Construction Co., Phila., Pa.
 American Spiral Pipe Works, Chicago, Ill.
 Cameron Steam Pump Wks., A. S., New York, N. Y.
 Dart Manufacturing Co., E. M., Providence, R. I.
 General Fire Extinguisher Co., Providence, R. I.
 Glamorgan Pipe & Foundry Co., Lynchburg, Va.
 McVane Pipe Works, Lynchburg, Va.
 National Tube Co., Pittsburgh, Pa.
 U. S. Cast Iron Pipe & Fdy. Co., New York, N. Y.
 Whitlock Coil Pipe Co., Hartford, Conn.
 Wood & Co., R. D., Philadelphia, Pa.
Flexible Joints.
 Moran Flex. Steam Joint Co., Inc., Louisville, Ky.
Flooring. (Cement.)
 Dagostin & Angelini Bros., Montgomery, Ala.
Flooring. (Hardwood, Maple, Oak.)
 Carolina Portland Cement Co., Charleston, S. C.
 Northross Mantel Co., W. J., Memphis, Tenn.
 Nashville Harwood Flooring Co., Nashville, Tenn.
Flour and Grist Mill Machinery and Supplies.
 Caldwell & Sons Co., H. W., Chicago, Ill.
 Gibbes Machinery Co., Columbia, S. C.
 Nordin & Marmon Co., Indianapolis, Ind.
 Salem Foundry & Machine Works, Salem, Va.
 Starr Co., B. F., Baltimore, Md.
 Veatch & Co., L. R., Louisville, Ky.
 Wolf Co., Chambersburg, Pa.
Flushtank Regulator.
 Modern Iron Works, Quincy, Ill.
Flushtanks.
 Merritt & Co., Camden, N. J.
Foot Valves.
 Cameron Steam Pump Wks., A. S., New York, N. Y.
Forges.
 Buffalo Forge Co., Buffalo, N. Y.
 Sturtevant Co., B. F., Hyde Park, Mass.
Forgings.
 Great Southern Automobile Co., Birmingham, Ala.
 Richmond Forgings Corporation, Richmond, Va.
 Weiner Chain & Iron Co., Lebanon, Pa.
Forms. (Steel Collapsible.)
 Concrete Form & Engine Co., Detroit, Mich.
Foundations.
 Underground Constr. Co., The, St. Louis, Mo.
Foundations. (Open or Pneumatic.)
 Missouri Val. Bridge & Iron Co., Leavenworth, Kan.
Foundry Equipment and Supplies.
 Paxson Co., J. W., Philadelphia, Pa.
Frogs. [See Railroad Frogs and Switches.]
Fuel Economizer.
 Green Fuel Economizer Co., Mattawan, N. Y.
 Sturtevant Co., B. F., Hyde Park, Mass.
Fuel Oil.
 Gulf Refining Co., Pittsburgh, Pa.
 Texas Co., The, New York, N. Y.
Fuel Oil Equipment.
 Petroleum Iron Works Co., Sharon, Pa.
Furnace Builders.
 Ritter-Conley Mfg. Co., Pittsburgh, Pa.
Fuses, Bases and Fittings.
 Johns-Manville Co., H. W., New York, N. Y.
Galvanized Steel and Iron.
 American Sheet & Tin Plate Co., Pittsburgh, Pa.
 J. C. H. Galvanizing Co., Philadelphia, Pa.
 La Belle Iron Works, Steubenville, O.
 McCalla, Harold, Philadelphia, Pa.
 New Orleans Roof & Metal Co., New Orleans, La.
 Wood Iron & Steel Co., Alan, Philadelphia, Pa.
 Youngstown Sheet & Tube Co., Youngstown, O.
Garages. (Fireproof and Portable.)
 Harry Steel Co., O. K., St. Louis, Mo.
Gas Blowers. (Turbine.)
 Terry Steam Turbine Co., New York, N. Y.
Gas Compressors.
 Ingersoll-Rand Co., New York, N. Y.
Gas Engines. [See Engines, Gas.]
Gas Holders.
 Bartlett-Hayward Co., The, Baltimore, Md.
 Chicago Bridge & Iron Wks., Chicago, Ill.
Gas Machines.
 Economy Gas Mach. Co., Rochester, N. Y.
Gas Plants.
 Western Gas Construction Co., Ft. Wayne, Ind.
Gas Plants and Benches.
 Improved Equipment Co., New York, N. Y.
Gas Plants. (Coal and Water.)
 Bartlett-Hayward Co., The, Baltimore, Md.
Gas Producers.
 Bogart Gas Power Eng. Co., Buffalo, N. Y.
 Improved Equipment Co., New York, N. Y.
 Otto Gas Engine Works, Philadelphia, Pa.
 Standard Gas Power Co., Atlanta, Ga.
 Westinghouse Machine Co., Pittsburgh, Pa.
 Wood & Co., R. D., Philadelphia, Pa.
Gasoline and Kerosene.
 Gulf Refining Co., Pittsburgh, Pa.
 Texas Co., The, New York, N. Y.
Gas and Steam Fitters' Tools.
 Saunders' Sons, D., Yonkers, N. Y.
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 N. J. Car Spring & Rubber Co., Jersey City, N. J.
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 Afro-Clem Elevator Co., Philadelphia, Pa.
 Brown Co., A. & F., New York, N. Y.
 Caldwell Co., Inc., W. E., Louisville, Ky.
 Caldwell & Son Co., H. W., Chicago, Ill.
 Cresson Co., Geo. V., Philadelphia, Pa.
 Dayton Globe Iron Works Co., Dayton, O.
 Dodge Manufacturing Co., Mishawaka, Ind.
 Earle Gear & Machine Co., The, Philadelphia, Pa.
 Great Southern Automobile Co., Birmingham, Ala.
 Jeffrey Mfg. Co., Columbus, O.
 Poole Engineering & Machine Co., Baltimore, Md.
 Positive Clutch & Pulley Works, Buffalo, N. Y.
 Trump Mfg. Co., Springfield, O.
Geologists.
 Clapp, Frederick C., Pittsburgh, Pa.
 Froeblich & Robertson, Richmond, Va.
Glass. (Plate, etc.)
 Blumwanger & Co., Memphis, Tenn.
 Holophane Co., Newark, Ohio.
Governors.
 Pickering Governor Co., Portland, Conn.
Grain Elevator Supplies.
 Caldwell & Sons Co., H. W., Chicago, Ill.
 Dodge Manufacturing Co., Mishawaka, Ind.
 Jeffrey Mfg. Co., Columbus, O.
 Link-Belt Co., Nicetown (Philadelphia), Pa.
Granite.
 Harris Granite Quarries Co., Salisbury, N. O.
Graphite.
 Detroit Graphite Co., Detroit, Mich.
 Dixon Crucible Co., Joseph, Jersey City, N. J.
Grates and Grate Bars.
 Conroy Mfg. Co., North East, Md.
 Patch & Son Co., S. B., Streator, Ill.
 Thomas Grate Bar Co., Birmingham, Ala.
Gravel.
 Arundel Sand & Gravel Co., Baltimore, Md.
 Cassels Cement Gravel Co., Augusta, Ga.
 Lathrop & Co., C. P., Richmond, Va.
Greases and Lubricating Compounds.
 Cook's Sons, Adam, New York, N. Y.
 Galena Signal Oil Co., Franklin, Pa.
 Robinson & Son Co., Wm. C., Baltimore, Md.
 Texas Co., The, New York, N. Y.
Grease and Oil Cups and Lubricators.
 Cook's Sons, Adam, New York, N. Y.
Grinders. (Gypsum, Limestone, etc.)
 Gardner Crusher Co., New York, N. Y.
 Williams Pat. Crusher & Pulv. Co., Chicago, Ill.
Grinding Wheels.
 Abrasive Material Co., Philadelphia, Pa.
 Carborundum Co., Niagara Falls, N. Y.
 Norton Co., Worcester, Mass.
 Vitified Wheel Co., Westfield, Mass.
Groovers.
 Huther Bros. Saw Mfg. Co., Rochester, N. Y.
Gunpowder.
 du Pont de Nemours Powder Co., E. I., Wilmington, Del.
Hammers. (Steam, Power, Pneumatic.)
 Chicago Pneumatic Tool Co., Chicago, Ill.
 Independent Pneumatic Tool Co., Chicago, Ill.
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Hand Elevators.
 McKenna Bros. Brass Co., Pittsburgh, Pa.
 Sidney Elevator Mfg. Co., Sidney, O.
Handle Machinery. [See Woodworking Mch.]
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Hauling Engines. (Steam Traction.)
 Case Threshing Mach. Co., J. I., Racine, Wis.
Hay Tools.
 Myers & Bro., F. H., Ashland, O.
Heater. (Portable, for Bituminous Pavements.)
 Ruggles-Coles Engineering Co., New York, N. Y.
Heating Apparatus, Engineers and Contractors.
 American Blower Co., Detroit, Mich.
 Bartlett-Hayward Co., Baltimore, Md.
 Buffalo Forge Co., Buffalo, N. Y.
 Monitor Steam Generator Mfg. Co., Balto., Md.
 Peck-Hammond Co., The, Cincinnati, O.
 Sturtevant Co., B. F., Hyde Park, Mass.
Hoisting Machinery.
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 Brown Hoisting Mch. Co., Cleveland, O.
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Jeffrey Mfg. Co., Columbus, O.
Mundt & Sons, Charles, Jersey City, N. J.
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.
New Jersey Wire Cloth Co., Trenton, N. J.
Waterloo Cement Mch. Co., Waterloo, Iowa.
- Searchlights.**
Ft. Wayne Electric Works, Ft. Wayne, Ind.
- Separators. (Dust.)**
Buffalo Forge Co., Buffalo, N. Y.
Raymond Bros. Impact Pulv. Co., Chicago, Ill.
Savannah Blow Pipe Co., Savannah, Ga.
Skinner Bros., St. Louis, Mo.
- Sewer Pipe Machinery.**
American Clay Machinery Co., The, Bucyrus, O.
Taphin-Rice Clerkin Co., Akron, O.
- Sewer Pipe. (Vitrified.)**
Carroll Portland Cement Co., Charleston, S. C.
Pittsburgh-Buffalo Co., Pittsburgh, Pa.
Pomona Terra-Cotta Co., Pomona, N. C.
Stevens Sons Co., H., Macon, Ga.
- Shades.**
Holograph Co., Newark, Ohio.
- Shafting. (Polished Steel.)**
Field & Co., Inc., Philadelphia, Pa.
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Republiron & Steel Co., Youngstown, O.
- Shafting Boxes.**
Hyatt Roller Bearing Co., Newark, N. J.
- Shafting. (See Pulleys, Shafting and Hangers.)**
- Shapes. (Rolled Steel, Brass and Bronze.)**
United States Metal Products Co., New York, N. Y.
- Sharpening Stones.**
Norton Co., Worcester, Mass.
Vitrified Wheel Co., Westfield, Mass.
- Shears. (Metal.)**
Royersford Fdry. & Mach. Co., Royersford, Pa.
- Sheet Brass and Copper.**
Hussey & Co., C. G., Pittsburgh, Pa.
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- Sheet Metal Working Machinery.**
Bliss Co., E. W., Brooklyn, N. Y.
- Sheet Steel and Iron.**
Allegheny Steel Co., Pittsburgh, Pa.
American Rolling Mill Co., Middletown, O.
American Sheet & Tin Plate Co., Pittsburgh, Pa.
Cincinnati Iron & Steel Co., Cincinnati, O.
La Belle Iron Works, Steubenville, O.
Republiron & Steel Co., Youngstown, O.
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Youngstown Sheet & Tube Co., The, Youngstown, O.
- Shingles. (Metal.)**
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Cortright Metal Roofing Co., Philadelphia, Pa.
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- Shutters. (Iron.)**
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Chesapeake Iron Works, Baltimore, Md.
- Shutters. (Steel Rolling.)**
Klinner Mfg. Co., Columbus, O.
- Shutters. (Tin Clad.)**
Victor Mfg. Co., Newburyport, Mass.
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- Skylights and Cornices.**
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- Slate. (Structural, Sanitary, etc.)**
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- Smokestacks. (Iron and Steel.)**
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Keeler Co., E., Williamsport, Pa.
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Petroleum Iron Works Co., Sharon, Pa.
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Virginia Bridge & Iron Co., Roanoke, Va.
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Bennett Rubber Stamp & Seal Co., Atlanta, Ga.
Dixie Seal & Stamp Co., Atlanta, Ga.
- Standpipes.**
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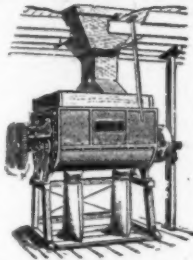
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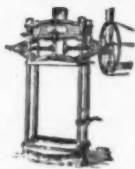
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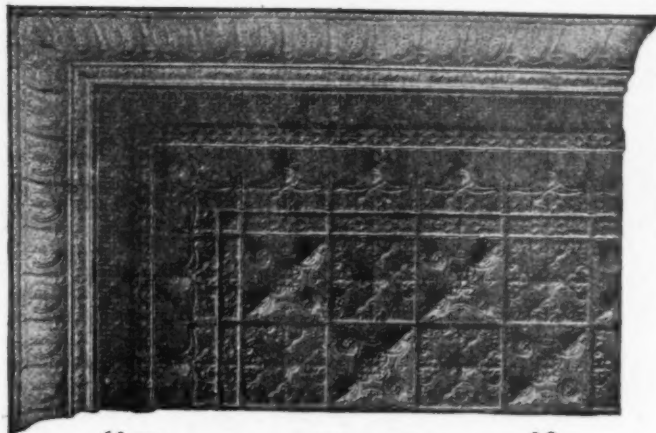
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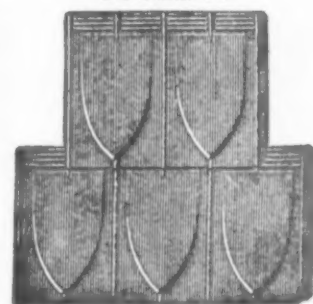


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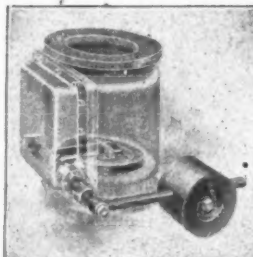
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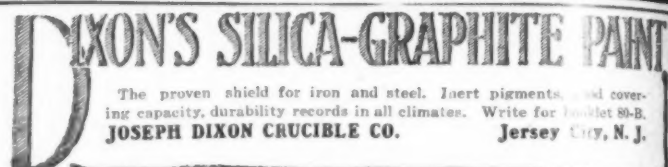
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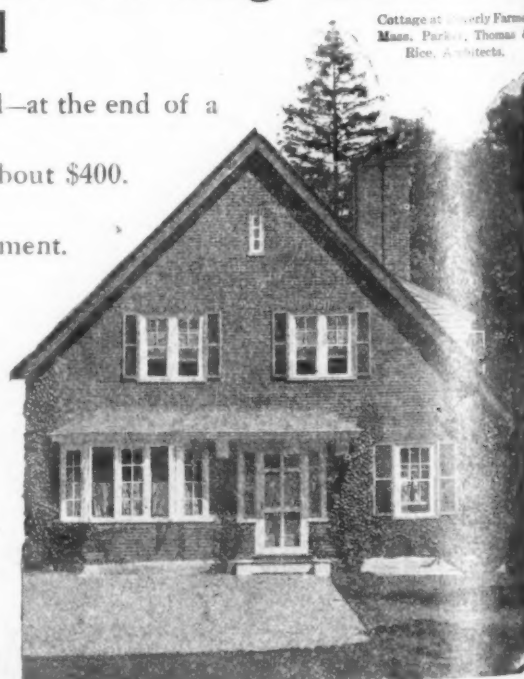
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